The Builder.

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Some Capitals in Lincolnshire Bell Towers.

AMONG the monuments in this country that are generally termed "Saxon" or "pre-Conquest," a prominent place is taken by the square towers, generally at the west end of churches, that occur in many parts of England, and are specially common in Lincolnshire. In that county between thirty and forty examples may be counted, differing, of course, one from the other, but all possessing in common features that contrast with what we are accustomed to in Norman work. One example, that of St. Peter's, Barton-on-Humber, is of two distinct dates, the uppermost stage agreeing generally with the rest of the towers in the county, while the lower stories with their long and short quoins, pilaster strips, and baluster shafts, are of a different and earlier character. Broughton-by-Brigg is also in some respects exceptional. Branston, near Lincoln, has arcading round the lower stage that would in itself be termed Early Norman, while Boothby-Pagnell, which agrees with the others in some pre-Conquest features, has a western doorway of a Transitional type. Some of the tower arches, if taken by themselves, would be pronounced Norman. On the other hand, there are distinct signs either of a date prior to Norman times, or, at any rate, of complete independence of Norman traditions, both in the towers themselves and in the western ends of the churches with which they are connected, and both from their intrinsic character and the chronological problems they present, they form a class of buildings well worthy of the notice that has been bestowed on them. In the present article attention is only directed to one feature of the towers—the capitals, often of curious interest, that surmount the mid-wall shafts in the double belfry openings.

These openings are cut straight through the walls, and are not recessed after the fashion of advanced Romanesque building. In this feature, and in the absence of buttresses, all the towers agree, and seem to be in this way marked off distinctly from Norman structures. On the other hand the mid-wall shafts are never of the "baluster" type, which is recognised as specially Saxon, but are generally plain and straight sided,* without tapering or entasis, in section circular or octagonal, and sometimes oblong—that is, measuring more in the direction of the thickness of the wall, a peculiarity agreeing with a feature of some of the caps to be afterwards noticed. In most cases the shafts are provided with capitals, and less frequently with bases, with which feature time has dealt more hardly than with the more sheltered caps. The antiquity of many of the existing capitals is doubtful, and in what follows dependence has only been placed on those examples that bear an unmistakable *cachet* of age.

The capitals here illustrated may be roughly grouped under the two headings "Cubical" and "Volute" caps, and are genuine specimens of native English carving of the middle decades of the eleventh century. We cannot put them earlier because of the distinct and matured Romanesque forms which occur among them, while so many of them are bizarre or helpless in their shape and decoration, or are evidently worked out purely by the "rule of thumb" that they cannot be regarded as the work of a Norman chisel. There is every appearance that they were made for the places they occupy, and in a large number of instances they are only decorated on the outer face and part of the sides, so that we can imagine them being actually carved *in situ*. There is no order of historical succession to be made out of the forms and motives, for though some are primitive and others advanced, the ruder examples are sometimes to be found in towers that would be placed late in the group. In dealing with the caps, however, they may, for convenience sake, be ranged according to an assumed scheme of development, the most primitive being first considered.

Fig. 1, from St. Mary-le-Wigford, Lincoln, might seem of dubious antiquity did not the same form occur in the undoubtedly ancient archway, probably at first a chancel arch, between the tower and church at Broughton, near Brigg, in the same county. It is a rude way of cutting down the square of the top of the cap to the octagon of its base, and in a modified form we find the same device at Boothby-Pagnell, where, however, the chamfers are hollow. Some caps at Marton, near where the old Roman road from Lincoln to Doncaster crosses the Trent, exhibit a somewhat helpless procedure by which the square of the abacus is cut down to the round of the top of the circular shaft by starting to slope the sides away like an inverted pyramid, and then rounding the corners off till the form becomes that of an inverted cone. This may be regarded as an uninstructed attempt to deal with a problem that is perfectly solved in the normal cubical cap, which is represented in examples of undoubted antiquity at Clee, near Grimsby (fig. 2). This cubical cap, formed by the interpenetration of a hemisphere and a cube, is doubtless a foreign importation, probably from Germany, where the form becomes common in the eleventh century. In its distinctness and decision of shape and perfect fulfilment of conditions the mediæval cubical cap is as good as any tectonic form of the Greeks, and is the most successful independent invention of the kind that we owe to the Middle Ages. The development of the later subdivided or scalloped cap from the simple cubical type can be followed in the Lincolnshire belfries. At Rothwell, in the Castor district, we find mitred cubical caps, shown in fig. 3, but the tooling on the stone suggests that they may date from a restoration of half a century ago. Such mitring, due to a desire to accentuate the divisions of the mass, would be sure to occur as a stage towards its further partition in the subdivided cubical

* Exceptionally we find at Barton, upper story, north side, a shaft with a double cable moulding banded round it about half way up, and at Glentworth, south opening, a cable moulding running down the front of the shaft.

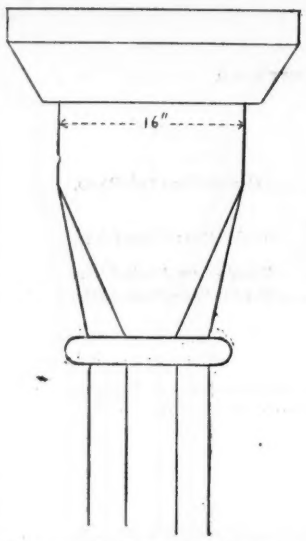


Fig. 1.—St. Mary-le-Wigford, Lincoln. North opening.

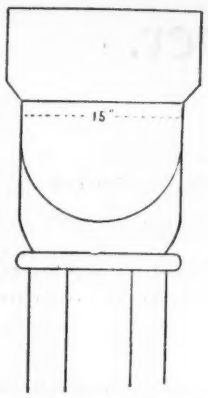


Fig. 2.—Clee, near Grimsby.

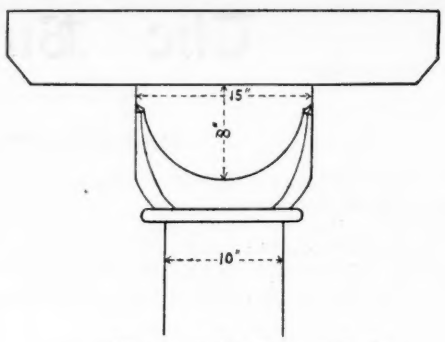


Fig. 3.—Rothwell, near Caslor.

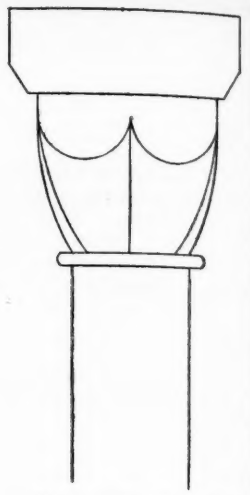
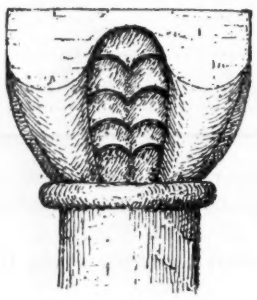


Fig. 4.—Branston, by Lincoln.



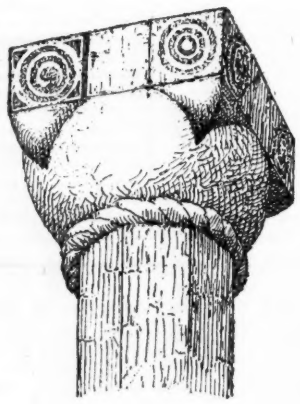


Fig. 7.—Glentworth. East opening; cap from north east.

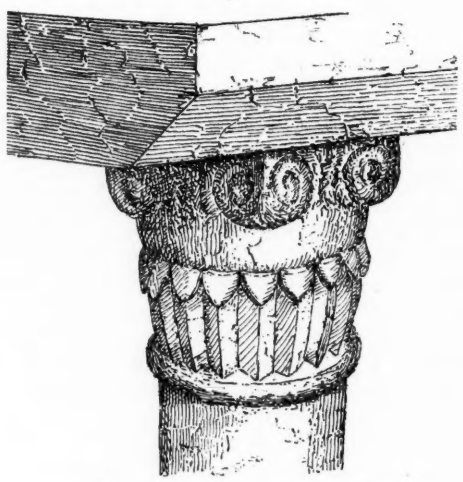


Fig. 8.—Scartho, near Grimsby.

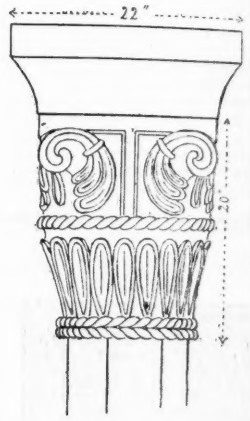
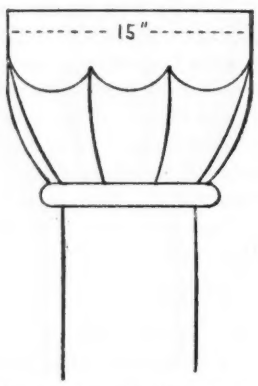


Fig. 9.—St. Peter-at-Gowts, Lincoln. South opening.



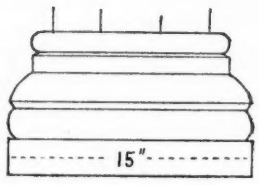


Fig 6.—Bracebridge. South opening; cap and base.

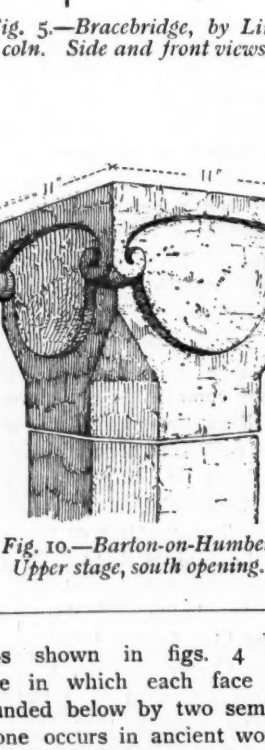


Fig. 5.—Bracebridge, by Lincoln. Side and front views.

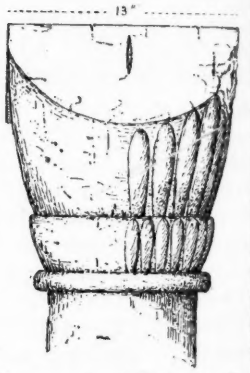


Fig. 12.—Great Hale. South opening; west face of cap.

Fig. 10.—Barton-on-Humber. Upper stage, south opening.

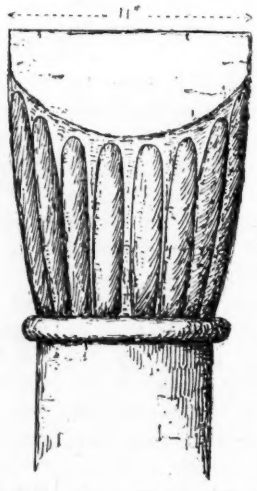


Fig. 11.—Great Hale. West opening; west face of cap.

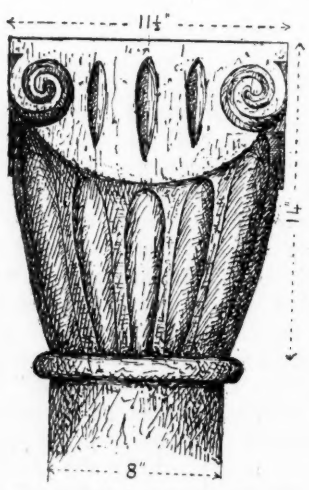


Fig. 13.—Great Hale. East opening; east face of cap.

Fig. 14.—Great Hale. North cap.

caps shown in figs. 4 and 5. The type in which each face of the cap is bounded below by two semicircles instead of one occurs in ancient work at Branston, by Lincoln (fig. 4). These caps are elegant and well-wrought examples. The further subdivision into three, by which we reach the shape of the familiar scalloped cap, is represented in the tower of the well-known pre-Conquest church of Bracebridge, on the outskirts of Lincoln. In the western belfry opening there we find the cap given in fig. 5, in which the middle section of the front or western face of the cap is enriched in the somewhat bizarre fashion shown in the drawing. It is a good illustration of the curious mixture of normal with fanciful motives which we find in these caps, and which betray the hand of ingenious, but half-taught, carvers at work on forms imported from abroad.

The series just noticed represents a continuous evolution in which a form produced originally by the exigencies of construction

—or, to use a convenient term familiar in Germany, a tectonic form—is gradually modified by subdivision and by the defining and accentuating of parts. The two dimensions, the square above and the circle below, depend upon structure, and the artistic problem lay in the fitting transition from the one to the other. The transition is, as we have seen, worked out in the Lincolnshire belfries in different ways, though we are not to conclude that the simpler and ruder forms are earlier in actual date than those more artistically advanced.

Hitherto we have dealt with caps of the cubical type. Those which are distinguished by the use of the volute might seem at first sight more artificial, as the volute itself is obviously a borrowed form. The volute, however, as used in these belfries, is only a means of decorating a shape arrived at in the process of construction. The construction in this case is not the same as in that of the normal cubical cap. In the latter, the diameter of the hemisphere that interpenetrates with the cube is equal to the *diagonal* (in plan) of the cube. In the caps now before us (see figs. 6 and 7) the lower part of the cube is worked into the form of a hemisphere of a diameter equal only to the *side* of the cube. This smaller hemisphere is carried round in its full circumference for about half the height of the cap, at which point the corners of the original cube are left projecting. These projections have then to be dealt with, and they are brought down to meet the hemisphere in two ways, of which that shown in fig. 7 is the most common. The cap from Bracebridge, south opening (fig. 6), is notable for its originality. The shaft supporting it possesses, moreover, about the best developed base that occurs in the belfries, the profile of which is given in the drawing. In the Glentworth example (fig. 7), and many others of which specimens are given in the illustrations, the projecting corners of the cube are worked into volutes, while the central space on each face between the curls is left plain, as in fig. 7, or treated with a drop like the so-called Tau of early Norman caps, or some other ornamental motive. Some of these volute caps introduce us to a more elaborate decorative treatment. At Scartho, near Grimsby (fig. 8), the lower part of the capital is surrounded with a ring of upright leaves turned over at the top after a fashion represented in the early Norman crypt at Lastingham, as well as in the crypt of Sta. Trinité, at Caen, Normandy. The richest in ornamentation of all is the cap from St. Peter-at-Gowts, south opening, fig. 9, where there is considerable elegance of design and sharp and delicate cutting. The cap from the upper stage at Barton-on-Humber, south opening (fig. 10), is, on the other hand, clumsy and unpleasing, though undoubtedly original in treatment. It passes off into the octagonal shaft which it crowns, without any neck moulding, though this is almost universal in other examples.

The most interesting set of caps in any of the towers is to be found at Great Hale, near Sleaford, where there are four, all different and all fanciful without being extravagant. This tower is distinguished from all the rest by its possession of a turret stair of stone in the north-eastern angle—evidently an early attempt at such a feature, for it is curiously steep and narrow, about 17 in., and is imperfectly planned, so that it shows as a bulge on the eastern external face of the tower. The caps are only carved on the outer faces, and they have the peculiarity that the abacus measures rather more in the direction of the thickness of the wall than it does the other way. This gives them some slight approach to the corbel capital, branching out to take the width of the masonry, which occurs in the openings of the Italian Campanili. In shape the Great Hale examples are a sort of combination of the cubical with the volute form, and they are peculiar in the reeding with which the lower part is adorned (figs. 11, 12, 13, 14).

The last example (fig. 15), from the northern face of Glentworth tower, shows the extreme

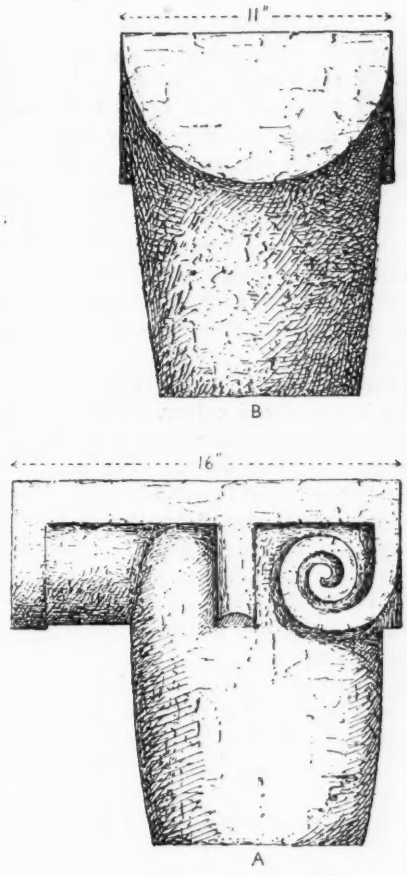


Fig. 15.—Glentworth. North opening; A, east face of cap, B, south face.

limit to which is carried the principle of corbelling out the cap to correspond with the thickness of the wall. This cap measures 11 in. on its face, but the side extends to 16 in. by a curious tongue projecting at the back. This extension is in none of the examples under consideration carried far enough to make it possible to dispense with a through stone, as in the case of the belfry openings at Sompting, in Sussex, where the arrangement resembles that of the Roman Campanili, though the finish of the tower itself is quite unlike anything to be found in Italy.

On the whole it may be claimed that these Lincolnshire caps are well deserving of attention, as they are pretty evidently native work of the Romanesque period not dominated by Norman influence. One can hardly imagine work of the kind being carried out in the neighbourhood of Lincoln when Remigius' Norman masons were executing such thoroughly normal and business-like tectonic work on the west front of the cathedral. The Normans checked the development of native talent in England and fashioned all work after their own patterns. These Lincolnshire caps, whenever they were cut, were handled by men who had not come under the predominant foreign influence, and without claiming for them or for the towers to which they belong any extravagantly early date, they may be put down safely as pre-Conquest, at any rate in style, if not in every case pre-Conquest in actual time.

THE COMPULSORY SANITARY INSPECTION OF SCHOOLS.

THE question of the compulsory sanitary inspection of buildings which are used in some ways other than as mere private dwelling-houses is one which is becoming more and more important. The trend of public opinion appears fortunately to be in favour of such inspection, but up to the present time what may be called a general power of sanitary inspection does not exist.

By the tenth section of the Public Health (London) Act, 1891, the Legislature has gone very near to giving such power as we have indicated to the local Sanitary Authority, for it is here enacted that the Sanitary Authority shall have a right to enter from time to time any premises (*a*) for the purpose of examining as to the existence of any nuisance (*b*), where a nuisance has been ascertained to exist, or a nuisance order has been made. We are interested for the moment with the first of these sub-divisions of this section. If read by itself it would, we think, be said to give the Sanitary Authority power simply to enter any premises merely to ascertain what their sanitary state is. When, however, we turn to the end of the Act—to Section 115—we find this general power is modified. For Sub-Section 3 runs thus:—"If a Justice is satisfied by information on oath (*a*) that there is reasonable ground for such entry, and that there has been a refusal to admit to such premises . . . (*b*) if there is reasonable cause to believe that there is on the said premises some contravention of the Act," then the magistrate may authorise the Sanitary Authority or its agent to enter by force, if necessary. It is clear, therefore, that the owner of premises may refuse to allow a sanitary inspection, and that the Sanitary Authority cannot obtain a compulsory order unless there is "reasonable ground" for such an entry.

Very recently an application was made to a London magistrate for such an order by the Vestry of St. Pancras. The building which it was desired to inspect was the North London Collegiate School for Girls, Sandall-road, St. Pancras, which was not under the control of any public authority, local or central. The Governors of the school refused to allow such inspection and it was not contended by the Vestry that the premises were in an insanitary state. Their ground was that as twenty-five out of thirty-eight Voluntary schools in their district had been found to be in an insanitary state there was "reasonable ground" for suspecting the sanitary state of the North London Collegiate School—and, we presume, of others not yet visited by the inspector.

It is perfectly obvious that no magistrate, whether a lawyer or a layman, could hold this to be a "reasonable ground." It would be as reasonable to assume that, because two out of four public-houses in a street were badly conducted, the other two were managed in the same way. And, of course, the summons was dismissed.

Each side acted in a perfectly *bonâ-fide*

manner, and the legal point was at any rate settled by the magistrate's decision. But the serious question which this case and the present state of legislation raises is whether or not it would be desirable that there should be a compulsory sanitary inspection of places of education which are purely private establishments.

It is well known that all primary schools supported to any extent by the Government are subject to inspection. We have more than once pointed out that the present state of this inspection is far from satisfactory. It is done by the inspectors who examine the scholars in their studies. We repeat that the inspection of all primary schools, in regard to sanitation, light, and the condition of the building, should be done by experts, who should make a detailed report as to the state of each school. At the present time, if the sanitary state is not satisfactory, as often as not the inspector merely gives some verbal directions to the managers. There is no really efficient and thorough system of inspection; no record of any degree of minuteness is kept of the sanitary condition of schools.

We are bound to say that such sanitary inspection should be carried further. At present the ground upon which it is based is that a school receives some public money which gives the State a right to look into its condition. But the time has arrived when every school, whether it be for boys or girls, whether it be large or small, should be inspected at stated intervals by authorised inspectors. There is no reason to doubt that the North London Collegiate School is in a satisfactory sanitary state, and if it is how is it hurt by a sanitary inspector going over it and giving a satisfactory certificate? On the other hand, unless there is such compulsory inspection, there is nothing whatever to prevent a building used as a school being in some cases in an improper sanitary state. With the very best intentions those in authority at schools may not be up to the mark in sanitary matters; or, on the other hand, they may trust to a system of sanitation which, efficient enough in the beginning, has got out of order. Periodical tests are necessary, and these are not usual in regard to many buildings. There is no hardship on individuals. If persons lay themselves out to supply education, they have a duty to supply proper buildings. There is no more reason why a supplier of education should not have his plant inspected than the supplier of goods from a factory.

Many of the large public schools would certainly be the better for periodical visits from competent experts. The lighting arrangements are far from satisfactory in some schools, and there is such a demand for places that practically there is no competition as regards plant so long as it passes a kind of general muster.

The question would next arise as to what body should be the Sanitary Authority over schools, and we feel no doubt that this should be the Local Government Board. The larger the area over which sanitary inspectors make visits the greater is their experience and the more independent they will be. Hence we hold that the time has come when a compulsory inspection of all schools by competent persons should take place. It may be that some kind of half measure might be applied in regard to the large public schools, and even to others in the first instance, such as the sending of certificates by a recognised authority to the Local Government Board which should be held to be tantamount to an official inspection. We live in a country of compromises, and these half-and-half measures have often to be adopted as a beginning. But of this we are quite sure, that the health of scholars should not depend on the will of the authorities of a school only, and that there should be either compulsory inspection or something which will have the same result.

NATIONAL COMPETITIONS OF SCHOOLS OF ART.

THE exhibition of students' work in the schools of art throughout the kingdom now opened at South Kensington is in many respects as interesting as in former years. In the division of architectural design, although not presenting any work of such real merit as last year, there are some designs which are of value. The design for a farmhouse by Albert Herbert is sufficiently simple to express its purpose, although drawn in a somewhat exaggerated attempt after originality. The town house of Mr. W. Haywood, freely drawn in pencil and colour, although simple and free from pretentiousness, is perhaps the best piece of work shown. The plan is of interest, the billiard-room being in the extreme rear with top light, the roof being formed as a flower garden. In a corner of the drawing are photographs of a plaster model of the elevations—a good idea, which might be resorted to more frequently in students' work.

The country residence of Mr. Cale is as bad as the preceding design is good, and is an example of the "put-in-all-you-know" kind of architecture, destructive of all repose in design. It is, however, awarded a silver medal. Other designs are by Mr. Guthrie, of Glasgow, for a town house, the Scotch Baronial turrets being rather overdone. Three labourers' cottages by Mr. A. D. Thacker give a very pleasing and simple idea of the subject. The country house of Mr. Goodall has no north point. How a prize can be given to a plan without such a necessary adjunct is, perhaps, only known to a South Kensington examiner. The village club by Mr. H. P. Smith and the town house by Mr. T. Houston are good, but the "municipal buildings" and "market halls" of two other competitors are too ambitious and fussy.

The "local personal examinations" in architectural design are on somewhat the same lines as the examination in design of the Royal Institute of British Architects. It consists of three days of five and a half hours each. On the first day the subject is sketched out, and this must be fully worked out, without departing from the original idea, in the two following days. This year the subject given was a billiard-room and accessories; and although seventy-nine students were examined, there is scarcely one design which is worth perusal.

The papers answered on architectural history, principals of ornament, and historic ornament show certain facility in sketching architectural features.

Under the important and somewhat inclusive subject of "design," are some really interesting exhibits, including designs for table cloths, wall papers, brooches, glove cases, butter knives, jugs, bowls, &c. In these, as in previous years, we note an absence of practical knowledge—a separation of the designing room from the workshop—which makes all the work under the South Kensington system so comparatively useless. Many of the designs have even no mention of what material they are to be worked in! Under the heading of modelling design are some good studies of panels and architectural features. Modelling and painting from the human figure are also shown in a small room.

The "architectural drawings from measurements" are mostly executed in a style, peculiar to South Kensington, which savours of the practice amongst architectural students in the early forties; most of the drawings are elaborately shaded according to sciographical rules, but such paltry details as the jointing of the stones are, in most cases, entirely omitted. What is the good, for instance, of the elaborate drawing of a bay of the nave of Winchester Cathedral without the stone jointing? Yet such a drawing is not only sent in, but is awarded the prize. Until the authorities put practical architects in charge of the architectural departments of the schools of art we can, perhaps, expect nothing better. On the other hand, the drawings are, in many cases, very carefully executed, and include such interesting buildings as Aston Hall, the Temple of the Sun, at Kew; Town Hall, Peterborough; Somerset House entrance, and the chantry of St. Mary at Warwick.

NOTES.

A Minister of Education and Art.

THE most important suggestion in the Report of the Museums Committee is the first of their special recommendations, viz.: that with a view to the efficient and economical management of the museums of London, "to say nothing of other educational advantages not within the order of reference," the Committee deem it of paramount importance that there should be an Education Minister of Cabinet rank having a seat in the Legislature, aided by a Parliamentary Secretary. Alter it to a "Minister of Education and Fine Arts," the title of the Department existing in the French Government, and this is what we have for years been recommending; not so much in view of "efficient and economical management" (though that is no doubt an important object), as in view of that official care for artistic interests and artistic development which is perhaps implied in the Committee's words as to "educational advantages not within the order of reference." Only we have always urged that such a Minister should be appointed permanently, and not be liable to removal with every change of Government. Art has nothing whatever to do with politics, and the result of making a Minister of Education and Art removable with every change of Government would be that art would still be regarded as subservient to political interests, and that a man who was carrying on admirable work in connexion with the promotion of art might be succeeded by some one who did not understand his views, and would proceed to undo all the good he had been doing. If the Report of the Museums Committee should lead to the institution of a Ministry of Education and Fine Art, it will have inaugurated a most important improvement.

But the object should be to find the best man for such a post, independent of any party considerations; and, when found, to keep him permanently in his place, and let him have a chance of carrying out his programme.

The Temple of Deir-el-Bahari.

THE Society for the Preservation of the Monuments of Ancient Egypt has issued to its members a circular describing the measures which have been taken, under the superintendence of Mr. Somers Clarke, for the preservation of the remains of the Temple of Deir-el-Bahari. The object has been to protect the most valuable of the sculptures by placing a roof over them to shield them from the glare of the sun upon the painted surfaces, and the disintegration caused by the alternations of heat and cold. The walls have been raised to a level around the Northern Hall, over which a vault in brickwork has been built. The south end of the vault is left open, and the sculptures, with which the walls of the hall are covered, can be better seen with a high side light than heretofore when the hall stood open to the sky. At the northern half of the middle colonnade the leaning columns have been set vertical, new stones being inserted here and there, and the columns carried up to their original height, so that they are now ready to receive a roof. To carry this roof a number of rolled iron sleepers were obtained from the railway administration, and are now lying within the temple ready to be used as architraves to carry the roof from column to column. The walls forming the back of the colonnades are now carried up ready to receive the roofs. The columns of the south half of the middle colonnade have yet to be repaired, and carried up to the necessary height to receive a roof which will shelter the sculptures. Immediately south of this is the portico of the Hathor Speos. On the north wall of this are sculptures of peculiar delicacy of execution, and still retaining much colour; and at the entrance of the Altar Court some of the wall sculpture remains, retaining its original colour with extraordinary brilliancy. For all these, if funds permit, some protection should be built. The south half of the lower colonnade bears on its back wall sculptures of great interest. The Exploration Fund has set in their places all the stones that could be found, and has yet to raise the columns in plain stone as high as the adjoining wall tops, which also have, in part, to be built up, and then covered with a roof. No attempt at restoration or falsification has been made; preservation of what exists is the sole object kept in view. Part of the funds required for the work have been collected, but a further sum of 200*l.* will be required to complete the work above indicated. Subscriptions may be sent to the Hon Treasurer, Mr. F. G. Hilton Price, 17, Collingham-gardens, S.W. It is to be hoped that the money required will be subscribed, as the work is such as must commend itself to the approval of all who are interested in the ancient monuments of Egypt.

St. Clement Danes Church, Strand.

THIS church is now reopened, after having undergone extensive repair and redecoration under the direction and superintendence of Messrs. Henry and Percival Currey. Some of the stone louvres in the belfry, being much worn, have been replaced in oak; all the pews have been lowered and, together with the rest of the woodwork, cleaned and polished. In the apse the two lower windows have been opened out, and the stained glass (three figure-subjects by Collins, 1844) from the central window above the altar is removed into three upper windows on the church's north side. The five windows in the apse are now filled with fresh stained glass, designed and executed by Messrs. Burlison & Grylls. The aisle-groining, in plaster, and the arched ceiling and spandrels of the vaulting, which are extensively decorated with panelling, festoons, and other enrichments, have been cleaned and coloured by Mr. H. G. Liley. The two wooden gates, now inserted outside the west doors, were designed by the late G. E. Street for another church. Being fashioned in the Gothic style, they are out of keeping with the general character of the fabric. The removal of the trefoil cusping from their upper railing would reduce the incongruity. The former church, the tower excepted, was pulled down in 1680. The existing one was built at a cost of 8,787*l.*, and opened in 1688. Wren's designs were carried out by Edward Pearce and John Shorthose, masons, whose agreement, dated May 13, 1680, with the churchwardens, and receipts for 3,071*l.* 1s. 9½d. endorsed, is preserved in the British Museum. Wren modified and recased the tower, his work there including all up to the stage next above the clock dials—see Kip's view of 1715. A later view, 1725, by Kip shows the belfry-stage and spire designed, 1719, by Gibbs, whose "Book of Architecture," 1728, contains a plate of his elevation from the west, with a plan of his additions to the tower. On the widening of the two thoroughfares around the church in 1813-4, by Alderman Pickett, the south portico with six Ionic columns (similar to that of St. Mary-le-Strand) was removed; the nave's contracted east end and the rounded apse are probably due to the narrowness of the former roadway and a block of houses which stood at that end of the church.

Preservation of National Monuments.

THE recent discussion of the subject by the Congress of Archæological Societies, the action of the Irish Members of Parliament in their endeavours to annul an illegal sale of Irish treasure-trove to the National Museum of England, and other events have called attention to this important and difficult question; and the paper, signed Paul Clemen, on the "Preservation of Monuments in France," the first part of which appears in the latest number of the *Zeitschrift für Bauwesen*, will therefore be accepted as timely in this country. The author gives a history of the movement which culminated in the Act of 1887, and an account of the way in which its provisions are administered. Although France is almost as bad as Ireland in the destruction of historical monuments by injudicious restoration, still her provisions for preservation are theoretically the best, and the paper is well worth the careful study of those interested in the subject. The author has evidently made himself thoroughly familiar with the extensive literature which has been written upon the question in the principal countries of Europe.

A Moving Staircase.

THE New York *Electrical Engineer* of July 7 contains an interesting illustrated article describing a "Reno Inclined Elevator" which has been recently erected in a large store in New York. It consists of a movable plane, which is inclined at an angle of 25 deg. to the horizontal, and moves at a speed of 75 ft. per minute by means of an endless chain. The chain is turned by a sprocket wheel actuated by an electric motor, and the plane on it consists of bars of hard wood on which are placed parallel to the chain rubber-covered ridges 1 in. high and ¾ in. wide. A handrail which moves at the same rate as the plane is an essential part of the system. The feet of the passengers rest upon the ridges, and are slid off at the top on to a comb-shaped landing, the prongs of which pass between the rubber ridges. It is stated that the landing is a most agreeable and natural one, and that there is absolutely no danger of feet or clothing catching at the top. Even cotton waste placed on it is carried safely to the top and does not catch in the prongs. The machinery works noiselessly, and can be started or stopped at either end by simply pressing a button. The moving plane is very popular with customers at the store, and has already carried over fifty thousand. It seems to us that there are several points in favour of this system. If the framework were built of steel and placed against a wall it would take up very little space and involve little structural alteration. Again, no attendant is required, and from the data given it appears that two thousand people can be carried per hour between the first and second floors at a cost of about 6d. for electric current. It is, therefore, much more economical than an electric lift.

"Scagliol" Fire Tests.

ON Wednesday, the 27th ult., some interesting experiments showing the value of "scagliol" as a fireproof material, were carried out at Northfleet, near Gravesend, in the works and under the auspices of the London Portland Cement Company, Limited. "Scagliol" is stated to be a mixture of plaster of Paris, slaked lime, and other ingredients, subjected to a complex chemical treatment, to which sand, coal-ash, or other suitable material is afterwards added. This sufficiently vague description refers to a material which is light grey in appearance, and for ordinary building purposes is made up into slabs. It has been used on the continent for the last five years or so, and is said to have given much satisfaction to architects. The principal things made with "scagliol" are wall-slabs, ceiling-slabs, ceilings and chimneys; for mortaring purposes the same material in the form of dry powder is mixed with lime-water and used liquid. The slabs measure 15⅝ in. by 23⅝ in., and are made in three thicknesses approximately 2 in., 3 in., and a little more than 4 in. respectively. In order to test the fire-resisting properties of the material, a small building was erected of it in the grounds at Northfleet alluded to. This building was divided into two parts by a partition wall. In one of the compartments wood saturated with petroleum was stacked up; in the test this was fired and the maximum temperature attained, as recorded by a pyrometer, was over 1,500 deg. Fahr. We were informed that in a previous experiment a temperature of 2,300 deg. Fahr. was

arrived at. Soon after firing, small hair-line cracks were formed in the outer walls of the building, but the outside surface of the walls was perfectly cool, even whilst the high temperature above-mentioned was being recorded. Devices were arranged to show the extent of the bulging of the outer walls which, however, was found to be hardly appreciable by the method adopted. The other compartment of the building was separated from the fire by a partition wall about 3 in. in thickness. To this was loosely nailed a piece of muslin, and a sheet of paper, whilst a thermometer let into the wall recorded the temperature—the object being to demonstrate that whilst one side of the 3 in. wall was subjected to a temperature of above 1,500 deg. Fahr. the other should be cool, and thus to show the fire-resisting properties of the scagliol wall. In the end this thermometer indicated a maximum temperature of 120 deg. Fahr. only, but for the greater part of half an hour, whilst the fire was burning, only 80 deg.-90 deg. Fahr. were registered. As soon as water was played upon the fire the temperature indicated by this thermometer rose to 160 deg. Fahr. Altogether the experiments were highly successful, and the scagliol slabs were practically unaffected by the conflagration. It would have been more satisfactory if the chemical composition of the material had been stated—not merely that the "bulk of it was gypsum"—for that, with other things, would have enabled us to judge of its weather-resisting properties also; an equally important matter. There can be no question that scagliol is an excellent fire-resisting material.

The Workmen's Compensation Act.

We have received from the Vestry of Westminster a well-compiled paper on the subject of the Workmen's Compensation Act, which will doubtless be useful to many persons in the parishes. As it touches on various legal and practical questions which have been already raised and discussed, it is unnecessary to say anything about it at length. It is, however, interesting to notice that, whilst for the last four years the Vestry has voluntarily paid compensation to its workmen to the amount of 34*l.* 11s. 2d., it could not have been obliged under the Act to pay more than 7*l.* 11s. It is also important to note that the quotations from insurance companies show that a sum of 81*l.* 5s. per annum would have to be paid in premiums if the Vestry were to decide to cover its risks by insurance. It is clear from this that the Assistant Vestry Clerk, by whom this paper is compiled, has some justification for speaking of "the preposterous rates" quoted by the insurance companies, and that his suggestion of joint municipal action for the protection of municipal interests has much to recommend it.

Old Age Pensions.

A number of Members of Parliament have signed a memorial to Mr. Balfour, asking the Government to legislate next Session on the subject of Old Age Pensions. The reasons for such legislation are very amusing. One reason is that something should be done "in view of the inconclusive results of the Inquiry by the Committee on Old Age Pensions." Usually it is urged that legislation should take place to carry out the recommendations of a Committee or a Commission. This is the first time we have heard of legislation being asked for because an inquiry has produced no result. The truth is that this question of Old Age Pensions is full of the greatest possible difficulties, nor has the social work of the Government been of a nature to make us desire to see this subject taken up by a weak Cabinet. Where, for example, is the London Water Act which was to have been law long ago?

Local Authorities and Technical Education.

The recent return in regard to the application of funds by Local Authorities to technical education shows that for 1895-6 a sum of more than 787,000*l.* was spent. It is impossible, however, from the return to know if there was a sufficient advantage obtained by this expenditure. We notice that the money was expended in a somewhat miscellaneous manner. Dressmaking, ambulance work, type-writing, sick nursing, French, music, and all sorts of subjects appear to be comprised under the head of technical education. In Lincolnshire, for example, we find domestic economy, music and singing, hedging, under draining, and thatching, follow each other in succession. The amount expended is distributed very frequently in small sums, ten pounds to this village, twenty pounds to that school room. A large sum under such circumstances necessarily goes in salaries, postages, and expenditure of that kind. There is also great absence of any general system. We are inclined to think that some kind of Government inquiry is desirable to see if the country is getting its money's worth.

The Sanitary State of Camborne.

From Dr. R. Bruce Low's report to the Local Government Board on an outbreak of enteric fever in the Urban District of Camborne, we find that in central Camborne all the well-known worst features of rural insanitation are met with. Excrement disposal is mainly by means of privies, with cesspits or middens attached. Some houses in the outlying portions of the district have no closets at all. Many of the privies are of rude construction, and some are built of wood. The pits and middens are sunk below the level of the ground; many of them receive surface water as well as the drip from the privy roof. The majority of them cause nuisance. In some fifty instances the privy contents have, in process of removal, to be carried through the house from the back-yard to the front street. Privies are, as a rule, emptied at the expense of the occupiers at irregular intervals; the contents are mixed with ashes and carted off by farmers. Scavenging of privies as at present practised is altogether unsatisfactory. House refuse is stored in middens or in ashpits, mostly uncovered, in which it is retained for long periods before any serious attempt is made at its removal. When farmers cannot be induced to cart it away, it is frequently thrown out in heaps in back lanes or on waste ground. As a result some lanes are almost blocked by accumulations of house refuse and rubbish of all sorts. The report on the surrounding parishes records much the same state of things. This neighbourhood seems to be a stronghold of disease.

Sanitary State of Claypole Rural District.

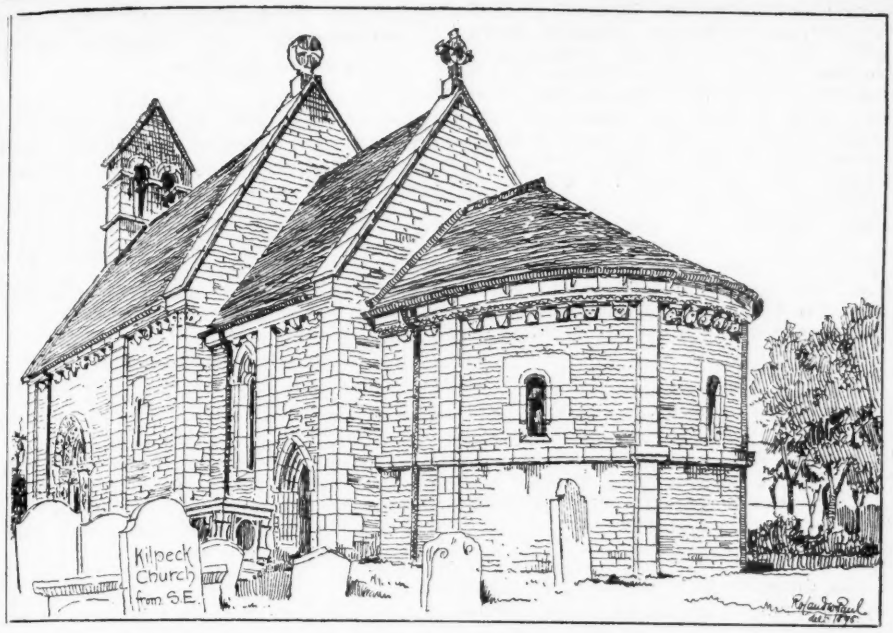
Dr. S. W. Wheaton's report to the Local Government Board on outbreaks of diphtheria in the Claypole Rural District, recounts how, at Marston, a large watercourse passes through the village, the sewage in which is almost stagnant, and which contained at the time of his visit a very large deposit of offensive filth; while at Church-street, Long Bennington, a watercourse containing slowly-moving sewage derived from the dwellings on each side of the road passes down the whole length of the street, and falls into the Witham at a point close to that at which many of the inhabitants fetch water from this river for drinking and cooking purposes. Pigsties, which are either undrained or drain into small catchpits formed of loose stones, are frequently situated close to dwellings, and are a cause of nuisance. Excrement disposal is effected by vault privies. The vaults of the privies are sunk below the ground level; they are not cemented internally, and are formed of loose stone or brick; consequently filth cannot fail to escape from them into the surrounding soil. Such vault privies are frequently placed *only a few yards distant from wells*, so that pollution of water in the wells by soakage from them can hardly fail to occur. The wells are from 15 ft. to 30 ft. in depth, are drysteined with stone or brick, and are not protected by any impervious material.

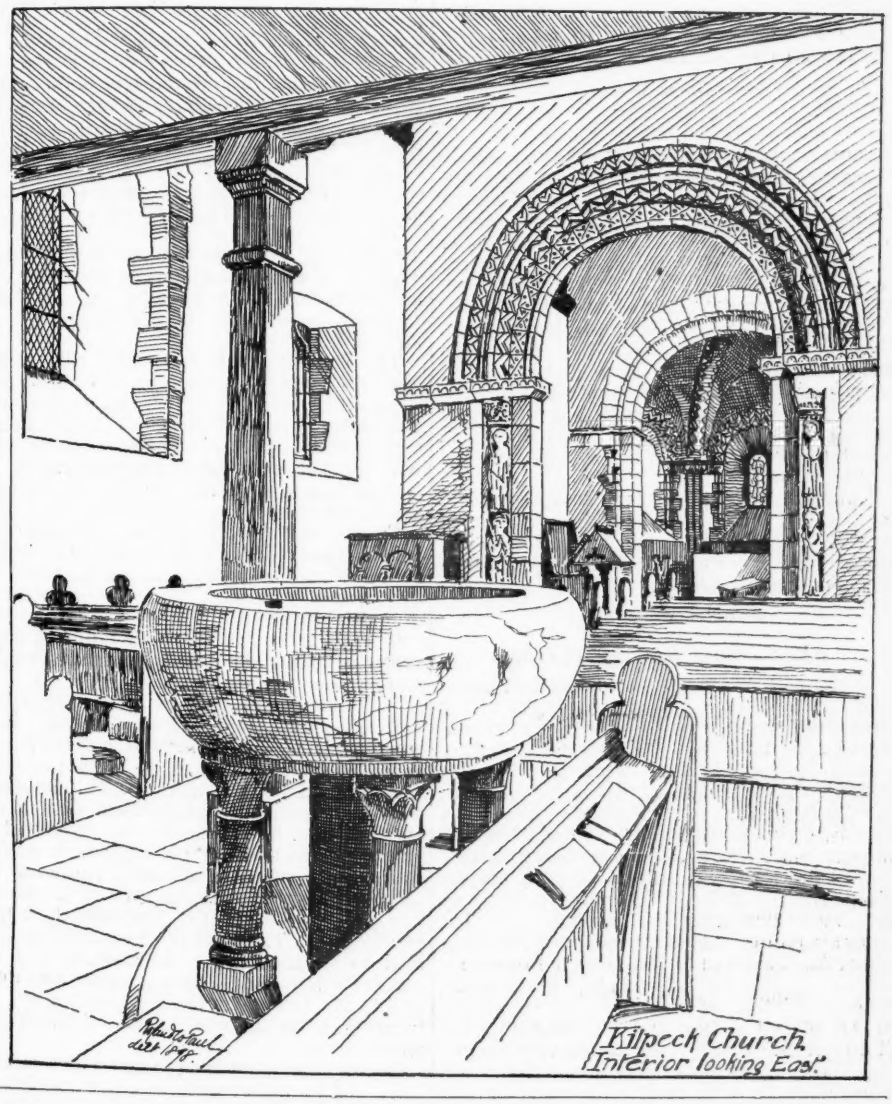
The Competition for the Prix de Rome.

In painting, as the First Grand Prix had not been awarded last year, the Academy this year distributed two First Grands Prix. They have given the first to M. Gibert, and the second to M. Laparra. M. Emmanuel Benner has gained one of the Second Grands Prix, and the other has been awarded to M. Guétin. The young artists had to represent "the Pool of Bethesda, of which the water disturbed by the Angel of the Lord cured the sick who bathed therein." The picture of M. Gibert, although well composed and remarkable in drawing, lacks the qualities of colour which characterise that of M. Laparra. The canvases of MM. Benner and Guétin are good pupils' work. In sculpture, of which the subject was "Cain after the Death of Abel receiving the Curse of the Almighty," it seems to us that the majority of the competitors have scarcely grasped the possibilities of the subject. The first Grand Prix has been awarded to M. Alaphilippe. M. Jean Boucher has received the first of the Second Grands Prix; and the second has been awarded to M. Alphonse Terroir. The competition in architecture, although we cannot now give the result, seems to have been of particular interest. The programme especially has the merit of being quite modern and realistic. The competitors were required to design a "Palace for the Guests of France." This subject may be supposed very naturally to fall in line with the intentions of the Government in view of the Exposition of 1900. We especially note for commendation amongst the designs submitted those of MM. Chifflot & Arfvidson.

KILPECK CHURCH.

The interesting Norman church at Kilpeck, in Herefordshire, has just been reopened by the Bishop of Hereford after repair. The church was restored about 1860, when a bell turret was erected at the west end, copings were added to the gables, and new fittings and seats were placed in the interior. For some time the roof has been in a defective state, and the interior has suffered from damp, and the want of proper drainage. The repairs that have been carried out have included the stripping and relaying of the old stone tile





roof, felt having been placed over the boarding of the nave and chancel; the renewal of the plastering in the interior; and the removal of the font from the centre of the chancel to a position at the west end of the nave near the south door. Gutters and down pipes have been added, connecting with a drain round the exterior of the church discharging into the Castle Moat. The repairs have been carried out by Messrs. Collins & Godfrey, builders, of Tewkesbury, under the superintendence of Mr. Roland W. Paul, architect, of London.

We give two illustrations of this interesting church—the south-east view of the exterior and the view of the interior looking east. The chief points of interest on the exterior are the elaborate south doorway, one of the richest in carving in England; the curious corbel table with a series of grotesque heads; and a highly ornamented west window. There are shallow pilasters at intervals round the exterior, and, with the exception of two windows and a doorway inserted in the fourteenth century, all the windows are Norman with wide inner splays.

The interior, as will be seen from the sketch, has an elaborate chancel arch with curious figures on the columns. The arch with the apse is plain, but retains traces of the rood beam. The apse retains its original vault, the ribs and rear arches of the windows being ornamented with chevrons. At the west end is a gallery of the seventeenth century, carried on square columns. The font, which is now under the gallery near the south porch, is a large one with a circular bowl, about 4 ft. in diameter, resting on four columns and a central drum. The step on which it stands is modern. The bowl is apparently of unpolished Purbeck. There is a curious stoup, now in the chancel, and one or two pieces of carved work were found during the repairs.

THE ROYAL ARCHÆOLOGICAL INSTITUTE AT LANCASTER.*

ON Monday, July 25, an excursion was made up the valley of the Lune. The first stop was at Halton, where the church and the remains of at least two Saxon crosses were inspected. The chief of these stands in the churchyard; its base and lower portion, with the story of the forging of Sigurd's sword, &c., have long been known to archæologists, but some fragments of the upper part and cross were found when the body of the church was rebuilt in 1878, and the shaft has been continued in plain stone to enable them to be fixed in their approximate positions. Parts of another cross of the same character, discovered at the same time, are set up in the fifteenth century tower of the church. The legends depicted on the crosses were lucidly explained by Mr. Nicholson in the unavoidable absence of the Rev. W. S. Calverley. Close to Halton church is an imposing earthwork, probably a Saxon burh or moothill.

The next place visited was Melling, where the church, an interesting building of the fifteenth century, was described by the vicar, the Rev. W. B. Grenside. It consists of a chancel, and nave with aisles of four bays, and western tower. Owing to the slope on which the church is built, there is a considerable ascent from the nave into the chancel. There are some good pews of the date 1763 in the aisles, and in the vestry are preserved part of the old rood-screen, of fine design, some fragments of Saxon and other sculptures, and a large wooden roundel of late fifteenth-century work, boldly carved with the Agnus Dei. This is said to have come from the Temple Church in London, and has been placed here by Mr. Grenside. To the east of the church is another of the conical and flat-topped mounds, of which several examples occur in the Lune Valley. This one is unusually perfect, but, like the Halton mound, it lacks the loop-shaped enclosures usually associated with a burh, and may be merely a moothill.

From Melling the journey was continued to Hornby. After luncheon a visit was paid to the church, the architecturul history of which was described by the Rev. Dr. Cox. The tower, which is octagonal, after the fashion of that at Coxwold, in Yorkshire, bears the inscription, "E. Stanley : miles : dns : | : montegle.me.fieri fec^t," and Lord Monteagle's arms within the Garter, to which Order he was elected in 1514, and died in 1523. The nave and aisles were rebuilt in 1888, but the chancel, with its unusual apsidal termination, belongs to a period slightly later than the tower. The church possesses an unusually fine late seventeenth-century altar frontal of Italian workmanship, a recent gift. In the churchyard is the lofty pyramidal socket of a Saxon cross (now lost) of early date.

A move was next made to Hornby Castle, where the party was hospitably received by Colonel W. H. Foster, M.P. The only ancient portion of the castle is the keep, a lofty tower, which, as pointed out by Mr. Roper in his interesting descriptive remarks, was built after the battle of Flodden by Sir Edward Stanley, Lord Monteagle, whose badge, an eagle's claw, and motto are carved on the wall. Mr. Roper traced the history of the castle through the Civil War, and referred to the remarkable series of law suits of which it was the object early in the present century, until its purchase by the grandfather of the present owner in 1859.

In the evening a meeting of the Historical Section was held, at which the Rev. Dr. Cox read some notes on the Shireburne family of Stonyhurst, in view of the visit to Mitton Church, next day. The concluding meeting followed, when votes of thanks were passed to the Mayor of Lancaster, the local committee, and others, through whose efforts the visit of the Institute to Lancaster had been so successfully carried out.

On Tuesday, the final stage of the proceedings was devoted to an expedition by special train to Whalley. On arrival there, brakes were in readiness to convey the party, which still numbered about a hundred, to Mitton Church, where the architectural features and monuments were described by Dr. Cox. Owing to the quick fall of the ground eastwards there is a descent of three steps into the nave and of several others into the chancel, thus reversing the arrangement at Melling.

* Continued from page 97.

The church consists of a fifteenth-century tower, an aisleless nave of the thirteenth century with good Perpendicular open roof, and a chancel of Decorated date (*circa* 1328), with an interesting north chapel of Elizabethan "Gothic," built in 1594. The building at first sight is rich in old fittings, but closer inspection reveals the fact that, including a good deal of the rood-screen, these are cast-iron imitations put in in 1838. The font cover is an interesting pyramidal example of the date 1593. The chancel has a good example of a low-side window, which Dr. Cox pointed out was neither for confessional purposes nor the use of lepers—both utterly impossible theories—but probably for ringing the sacring bell at towards the manor house or village. The north chapel, in addition to its architecture, is remarkable for a fine parclose of the same date, and a singular series of effigies of the Shireburne family. Dr. Cox pointed out that in three cases of persons who had died only about two centuries ago, the effigies were shown cross-legged, which was only another proof that such an attitude was in no way indicative of a Templar or one who had been to the Crusades.

After inspecting the curious rude fourteenth-century cross (on an ugly modern shaft), and other relics in the churchyard, the party returned to Whalley.

After luncheon a visit was first paid to the parish church, where Mr. Micklethwaite called attention to the remarkable series of pews with which the nave and its aisles are filled. These include the fifteenth-century enclosures, or "cages," of the chantry chapels at the ends of the aisles; a large and equally elaborate "cage" built about 1534 by Roger Nowell; and a good many excellent pews of early seventeenth century date. Among these is the "constable's pew," placed close to the door to enable that officer to take note of the presence or absence of "Recusants." It has most needlessly been lately moved from its original position. The nave and its aisles are of the fifteenth century, with an open roof like that at Mitton, and a western tower. The chancel is of the thirteenth century, and contains a fine series of fifteenth-century stalls, with misericords and lofty canopies. These, Mr. Micklethwaite thought, from their non-parochial character, had probably been removed hither from the neighbouring abbey at the Suppression. In the churchyard are three early Saxon crosses.

A move was next made to the abbey, which was described by Mr. W. H. St. John Hope. The monastery, which was of the Cistercian Order, was first established at Stanlaw, in Cheshire, in 1178, but removed to Whalley, as being a more convenient site, in 1296, when the abbey contained thirty-six monks. Mr. Hope suggested that the first buildings, like the original *monasterium ligneum* of Citeaux, were of a temporary character, for although the abbey and precinct were dedicated in 1306, the church was not begun until 1308, and the high altar was not hallowed until four years later. A "new church" was also begun in 1330, but the work of it went on so slowly that mass was not sung in it until 1380. In 1362 the Provincial of the Order remitted the contribution of the abbey to the General Chapter until the church should be finished, and the dorter and frater built. The chapter-house was already built before 1418, and in 1425 the new dorter was entered. New stalls in the choir were first used in 1435, a date which Mr. Hope pointed out would agree well with that of the stalls now in the parish church. A Lady Chapel was built by the ill-fated Abbot Paslew between 1507 and 1521, but its site was unknown.

The great gatehouse, a fine and perfect example of the fourteenth century, was first visited. Its upper story was a chapel, now inaccessible without ladders. This, Mr. Hope thought, might represent the *capella extra portas* usual in Cistercian abbeys, as at Furness, Fountains, and Rievaulx. A move was then made to the site of the abbey buildings. The great church has been utterly destroyed, but a fragment of its west end remains, and the lower part of the south transept gable, both of late fourteenth-century work. Passing to the site of the cloister, now partly farmyard and partly garden, Mr. Hope referred to the interesting departure from the normal plan, which was otherwise followed here, of several of the buildings, notably of the frater, which, though now destroyed all but its door, must have stood east and west, as at Sibton and later at Cleeve, instead of north and south, like that at Fountains. The *cellarium* or western range also differed materially from the usual Cistercian type, as seen at Furness, Fountains, and Jervaulx, and more closely resembled the "cellarer's lodging" of other Orders. This, Mr. Hope thought, was due to the disappearance of the *conversi* or working brothers, of whom hardly any traces could be found in English abbeys after the Black Death in 1349. The Whalley *cellarium* consists of a two-storied fourteenth-century building, fortunately nearly perfect, now used as a barn, &c. Of the other buildings nothing was left but the range east of the cloister, which contained the vestry, chapter-house vestibule, parlour, and other offices, with the very perfect remains of the reredorter at its southern end. The chapter-house, which must have been attached to the east side of the range, has disappeared. From these buildings a covered passage or gallery, probably with the library above, led to the infirmary and abbot's house, a good deal of which remains, overlaid by later work in the existing mansion, access to which was most kindly permitted by Mrs. Tyas, the present occupant.

Leaving the abbey precinct by a second gatehouse, of the fifteenth century, and still perfect, the party made their way to Whalley Station, where the special train was in waiting to convey them to Lancaster, and so the meeting, which was in every way a most successful one, in numbers, as to weather, and the interest of the places visited, came to an end.

COMPETITIONS.

Church, Sparkbrook, Birmingham.—At a recent meeting of the Buildings and Sites Committee it was announced that the following competing architects had sent in plans for the new Church of St. Agatha, to be built in the Stratford-road, Birmingham, viz.:—Messrs. Bateman & Bateman, W. H. Bidlake, R. Creed, William Henman, H. E. Lavender, M. Macartney, Edward Mansell, Temple L. Moore, F. B. Osborn, and T. F. Proud. The plans have been examined by the assessor, Sir Arthur Blomfield, A.R.A., whose report and recommendations will be considered at a meeting of the trustees, to be held early this month, at which the appointment of the selected architect will be made.

Lunatic Asylum, West Bangour.—Mr. Hippolyte J. Blanc, R.S.A., has been appointed architect for the new asylum at West Bangour. In our next issue we shall give some particulars of the proposed building.

ARCHITECTURAL SOCIETIES.

Northern Architectural Association.—The annual excursion of the members of the Northern Architectural Association was held at York on the 23rd ult. The members, on their arrival at York Station, were met by Mr. Benson, the President of the York Society; Mr. Burleigh, the secretary; and others. The members proceeded to the Station Hotel, to inspect some work at present being carried out in the hotel by Messrs. Robson for the North-Eastern Railway Company, in fitting up the new reading-room, writing-room, &c. They afterwards visited the following buildings under the guidance of Mr. George Benson:—The Church of All Saints', North-street, where some fine old glass was seen; the ruins of St. Mary's Abbey and the Museum; the King's Manor House; King William's College; the Guild Hall; the Merchants' Hall; the Shambles; the City Walls, and many objects of interest in passing. It was decided that as members were fairly acquainted with the Minster it should not be visited, there being so many other lesser-known buildings to inspect. The members afterwards dined together at the Station Hotel.

The Clergy and Artists' Association.—The Clergy and Artists' Association will hold its Third Church Congress Exhibition in the Bradford Art Gallery, during Congress week, by permission of the Committee of the Art Gallery, who have placed a portion of the Gallery at their disposal. As before, a special feature of the exhibition will be examples of work executed under the auspices of the Association. It is hoped also to include examples of Sir W. B. Richmond, of Mr. G. F. Watts, and Mr. Holman Hunt, and other representative examples of individual artists and craftsmen working in churches. The exhibition will be free. Artists desiring to submit examples of their work may do so by communicating with the Secretary, 6, Millbank-street, Westminster.

TARRED MACADAM IN THE CONSTRUCTION OF ROADWAYS IN URBAN DISTRICTS.*

The committee of the last International Congress of Hygiene and Demography, held at Buda-Pesth, adopted the following resolution: "That the paving of streets should be smooth, and as far as practicable impervious, to facilitate cleansing, and also to prevent contamination of the subsoil." The text of the resolution comprehends in a sentence all the essentials of a good roadway. These may be briefly summarised under the following heads:—

(*a*) Durability;
(*b*) The minimum of noise; and
(*c*) The minimum of first cost (consistent with the foregoing).

The attainment of the first of these, viz., Durability, is best realised by the adoption of granite setts, as may be witnessed more or less in all large cities, and nowhere to a greater proportionate extent than in the city where the Association is now assembled. This kind of paving, however, is not smooth; it is most noisy, the truism of "empty vehicles (not vessels) making the most sound," receiving abundant illustration on this form of road; further, unless laid on a bed of concrete and jointed in pitch, it is not impervious, and the facility of cleansing is much impeded, due to the numerous joints wearing open and rounding off, holding the dirt and dust of roadways. It is, moreover, costly, probably nearly as costly in construction as wood pavement, and its only claim for use is its durability. Allied to this material for road formation is the use of blue brick setts for carriageways, which are having experimental trials in a few places.

The attainment of the second head—*i.e.*, minimum of noise, is best realised by one or other of these descriptions of materials:—1. gutta-percha. 2. Compressed asphalte; and concrete macadam. 3. Wood paving. 4. Macadam.

The first named is mentioned only as the ideal of noiselessness, and not as entering into comparison with any of the well-known materials of road construction. It is in a very experimental stage as yet, and has hardly come within the scope of practical consideration. It is to be seen in small short sections in Glasgow, and at the entrance to Euston Station, London.

Compressed asphalte, also concrete macadam, is clean, impervious, durable, and, saving for the clatter of horses' feet, may be described as comparatively noiseless. Involving, as asphalte does, the underlying bed of concrete, the first cost renders it prohibitory in all save large centres of population. It is moreover slippery and unsuited to inclined roads upon a hill.

Wood paving comes next in the fulfilment of the necessary conditions of the text. It is smooth; is probably the least noisy of any of the descriptions of hard pavement; it is of moderate durability; and, if of the hard wood description, practically impervious to moisture. Its first cost, however, and the unreasonably short periods allowed for repayment, render the general adoption of wood pavement in moderately-sized towns, or even in the suburban parts of large cities, very unlikely if not prohibitory. The class of town or urban district to which allusion is made, is that of moderate size and limited financial resource, which are restricted therefore to the use of "macadam" in the constructions of their highways.

As it is from moderately-sized towns or districts that so many members of this Association come, the consideration of any improved form of macadam paving acquires special interest and importance; and there is no improved form of macadam which is so coming to the front, and demanding that attention which its merits unquestionably deserve, as that now going by the name of "tarred macadam." That is, a composition of any of the stones, gravel, or clinkers commonly used in the making of macadam roads with a mixture of tar. It appears a simple enough composition, but its preparation and laying, so as to turn out a success, bristle with delicate detail.

When properly made and on roads suited for it, this construction of road complies most nearly—compressed asphalte perhaps excepted—with the conditions laid down in the resolution set forth at the outset of this paper. It is

* From a Paper read by Mr. A. H. Campbell, City Surveyor, Canterbury, at the Annual Meeting of the Incorporated Association of Municipal and County Engineers, held at Edinburgh recently.

a smooth and noiseless road, it is non-absorbent, it is cleanly in itself and easily kept clean, and its first cost is within the capacity of the most reasonably restricted finance of small towns and districts. With all the advantages enumerated, it appears remarkable that tarred macadam has not yet been adopted except on the most limited scale. It is true that tarred gravel or limestone footpaths have been in use for a great number of years, and have now obtained a deservedly wide adoption, but the extension of this same composition, only of a larger gauge metal, to the construction of roadways has been most limited. As accounting for this, these reasons may be suggested, viz. :—the failures which frequently attend a first trial; an uncertainty as to the properties and action of tar, and how it will unite with the aggregate which it is designed to incorporate. The author can speak from personal experience of its failure and of its success too: failure where success was expected, and success where failure might be anticipated; and this is evidence of the fickle character of the composition. To its preparation, storage, and laying the author has had special opportunity of study, the composition, as used by him, being prepared by the workmen in his department.

In tabular form there is here submitted an epitome of particulars of several streets laid by the author during the past three years.

Name of Street.	Width of Carriageway	Nature of Traffic.	Date when Laid.	Thickness, Aggregate.	Cost per Superficial Yard.	Experience.
	ft. in.					
Stour-street	8 2	Heavy continuous traffic, 3 traction trains passing daily	July, 1895.	6 inches Kentish rag	About 4s. 6d.	Failure; quite unable to support the constant action of the traction engine traffic.
Turnagain-lane (cul-de-sac)	8 2	Light van traffic..	November, 1895.	4 inches of gravel on the old natural road formation.	3s.	Satisfactory.
Orange-street .. :	17 0	Medium through traffic, carriers' waggons, carts, and tradesmen's vans	March, 1897.	4 inches of gravel underlaid by 3 inches hard broken brick.	4s. 6d.	Most satisfactory.
King-street	(1) 16 6 (2) 8 2	Ditto.....	May, 1897.	3 inches ditto..	About 4s.	Moderately satisfactory; centre of way along horse track commenced to disintegrate, due to the tar being overboiled, and the material hardening or setting before using.
Guildhall-street ..	15 9	Heavy through traffic, omnibuses and general town traffic.....	September, 1897.	4 inches ditto..	4s. 6d.	Generally satisfactory; superficially softens on parts in sun heat, but otherwise is doing well.

Besides the foregoing list, a number of lanes in Canterbury have been partially laid with this composition: and at the present time St. Margaret-street, about 700 ft. long, with a carriageway of only 12 ft., and in the centre of the city, having heavy vehicular traffic, is in process of laying.

The preparation and laying embrace these details :—1. The nature of aggregate and its preparation. 2. The tar, its nature and treatment. 3. The mixing of these two together. 4. The storage. 5. The laying down upon the road. 6. The cost.

As regards the nature or description of the aggregate, the author has tried Kentish ragstone, surface picked flints, pit gravel, and Guernsey granite. The stone is prepared for the tar by burning in the open. It is laid out first of all in a flat bed about 12 in. thick, and of rectangular plan; on this is spread a layer of coke and breeze about 3 to 4 in. thick, with a little wood to assist the fire; this is then overlaid so as to form a stack of stone of about 5 ft. in height from the ground. In the meantime, as the last addition to the height is made, the fire of wood and coke has been kindled, and it is allowed to penetrate the stack. About 1½ chaldrons (54 bushels) of coke are consumed in a stack of 60 cube yards. As regards the length and size of the stack of stone, this may be made endless by laying out the stack so as to describe a circle, thus following in the process of mixing a circular course, with certain obvious advantages. Other makers of tarred stone composition in the author's district arrange the stack in the form of a cone, close it up at the top, fire it in the centre, and, allowing the fire to penetrate the mass, leave the stack of stone untouched whilst this process of firing proceeds. This operation may take any time between seven and ten days; the stack is then opened up, and the hot stone applied to the prepared tar. In either of these methods of firing the stone, a great deal of loss by disintegration occurs, the stone succumbing to the influence of fire, and tending to get reduced to a coarse-grained powder. Particularly so was this the case with a trial of granite exposed to fire, which quickly produced the condition above described. For this reason the author would much prefer the heating of the stone in an oven or kiln; the temperature would be more equable, and the severe firing causing the disintegration described would be avoided. On the subject of "heating" one or two remarks may be submitted. The author believes it to be the practice with some makers not to heat the stone at all, but being sure that the stone is dry and free from moisture, apply it in the cold but thoroughly dry state to the prepared tar. This condition of the stone, in the author's opinion, resembles the risk attached to laying the tarred mixture in position in cold instead of hot weather. The tar refuses to "work," the temperatures are so unequal, and when the sun (particularly the sun of the sunny south) beats upon such a road it is not improbable but that this defect will discover itself in the liquefied tar bubbling and spewing itself up over the surface.

The temperature of the stone when the tar is applied should be such as the palm of the hand can bear with comfort; if too hot, the tar will be destroyed as a cohesive; if too cold the tar will go on too thickly, and under the rays of a hot sun will soften. The hot stone when ready to be mixed with the prepared tar, is sifted through two gauges, graduated to 1 and to ½-in., giving three sizes of material, viz.: 1-in. to 2-in. gauge for the body material, ½ in. to 1-in. gauge for the intermediate or fining coat, and ¼-in. to ½-in. gauge for the skin or top dressing. These three sizes are laid in layers as follows, viz.: 3 in. to 4 in. thick of the coarse, about ¾-in. thick of the intermediate, and the top dressing in the thinnest layer possible, with a view only to filling all interstices; thereafter a dressing of fine ¼-in. granite or lime-stone siftings is scattered broadcast, and the traffic at once allowed on the road, working this top dressing in and assisting in the consolidation of the road formation. The weight of the roller employed by the author is nominally ten tons, and each of the three layers is rolled separately.

Considerable importance is attached to the state of the weather at the time of laying: in the sun by preference and to assure a good result; if laid in a cold temperature and with any defects present in the composition, disappointment and possible failure will result. Weather being normal, any time between May and September (inclusive) may be regarded as suitable. One word as to wet weather. Operations both of mixing and of laying should be suspended in time of "wet," where conducted in the open, as nothing so corrupts the composition as the presence of moisture.

In constructing a road of this tarred composition, the old surface is removed to a depth of 8 in., and re-made with a 4-in. thickness of dry hard broken stone, furnace clinker or brick; this is rolled smooth and finished to the required camber of the road. The author's reasons for this underlying ballasting of dry material are twofold: (1) To separate the tarred composition from any damp substratum, and (2) to economise in the thickness of tarred material. Under the author's practice, the tarred composition is only 4 in. thick (finished). This by itself would be an insufficient surface formation to bear the traffic and resist the damp, but underlaid by the dry ballasting of hard material, well rolled and preferably grouted with cement or brushed with well-boiled tar, appears to answer the requirements for which it is introduced. One sentence is necessary as to having the tarred mixture all in a fresh or "live" state when being laid, otherwise cracking and disintegration of the road will rapidly occur; also in keeping off all traffic during the progress of the work, not because the traffic in itself is an injury, but because of the dirt, dust, and other matter foreign to the mixture being imported, and destroying the binding together of the layers in one corporate mass. This hint is one to which the author attaches considerable importance, as the effects of this occurrence have been painfully present to his sight upon portions of two roads which he has laid down.

The quality of the tar employed is no less important than the other details of the work. Some trading firms making this material use the refined or distilled tar, and excellent results are thus obtainable; but more commonly it is the ordinary gas tar that is used at a cost of about 2d. per gallon. This tar should be as far as possible free from water, of a stiff dense consistency, any defects of this character having to be counteracted in the boiling operation; the lighter the tar the longer it must boil, so that all light oils are driven off. To each fifty gallons of tar is added a small proportion of pitch (about half a bucketful), and these are boiled together. The author would not assert the necessity of introducing even this small proportion of pitch, but the cost is almost infinitesimal, and as a counteractive to bad quality of tar it is good and worth introducing.

The life of this description of road paving may be taken at seven years; so that, divided up over that term, the annual cost of a road so paved will work out at 7·7d. During this term it may become necessary to outlay certain small amounts in repairs so as to maintain the surface smooth, whole, and impervious; this, estimated at 2d. per yard per annum, will give a grand total of 9·7d. per super yard per annum for this description of roadway. This rate for a good street pavement in urban districts, for heavy vehicular traffic of the ordinary sort (that is, excluding traction engine traffic, for which it is unsuited), is most moderate. Compare it with any of the other descriptions of paving: even than ordinary macadam it is rather less; and side by side with any of the improved harder pavements — wood, compressed asphalte, or setts on concrete bed—it is incomparably less costly.

The author does not, however, suggest that this description of pavement should enter into competition with these superior materials of road construction; each and all of them—stone setts, wood, asphalte, tarred macadam, and ordinary macadam — have their respective places; all, save tar macadam, have had their field and play, and it is for a fair field, devoid of any favour, that the author presents to the Association a plea on behalf of tar macadam. On the leading streets of smaller provincial towns, in the secondary and suburban thoroughfares of large towns, where in many cases stone or granite setts are used, of heavy cost, tarred macadam, properly prepared and laid, would form a welcome, valuable, and economic substitute.

IMPROVEMENTS AT THE GUILDHALL.—The Corporation has decided to expend 2,500*l.* in carrying out certain alterations at the Basinghall-street entrance to the Guildhall. These have become necessary through the demolition of the offices of the Chamberlain and the Weights and Measures Department and the erection of the new Public Health Offices. A permanent entrance will be made from Basinghall-street, starting from the library and running northward to the new block of offices. This will form a public approach to the strangers' gallery of the Council-chamber and the eastern portion of the Guildhall and its committee-rooms. The entrance will be fitted with gate piers of wrought iron, and the footways and carriage-ways will be paved with asphalte. The opportunity will be taken to complete two buttresses and to add a new window to the Council-chamber, thus finishing the "façade." A connexion will also be made between the library and the Common Council-chamber for use on ceremonial occasions.—*Daily Chronicle.*

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Doorways in Queen-square, Bloomsbury.

DOORWAYS, QUEEN SQUARE, LONDON.

This sketch of two doorways in Queen-square, Bloomsbury, is by Mr. H. F. Waring, and formed part of the collection of drawings which gained for him the Architectural Association Travelling Studentship, the more important ones of which we have already illustrated.*

A characteristic point in the design is that while each doorway up to the horizontal cornice is a separate and complete design, the pediment combines them into one design.

ARCHÆOLOGICAL SOCIETIES.

Essex Archæological Society.—The Essex Archæological Society recently made an excursion to Brightlingsea and other places. After an inspection of Brightlingsea Church, the Rev. A. Pertwee contributed a brief description of the building and its history, stating at the outset that since Morant's time the edifice had suffered considerably in style and character by the loss of its original roof, which fell in 1814. The building was a good example of the Essex Perpendicular church, and its tower had been pronounced one of the finest in the country, while the whole place had a peculiar effect of massiveness. The rev. gentleman went on to draw attention to many points of interest, mentioning that some features of the Decorative and Early English periods still remained, but there were no traces of Norman work, with the exception, perhaps, of a singular horseshoe-shaped recess in the south aisle. The objects alluded to by the Rector having been duly examined, a move was made, viâ Alresford, to St. Osyth, where luncheon was partaken of at the Red Lion Hotel, immediately before a visit to the Priory. Some time was spent in an examination of the old chapel. Its most important features were dealt with by Mr. Biddell, of London. The next place visited was the parish church, the unusual dimensions of which, as compared with the size of the village, were explained by Mr. Biddell as being due to the fact that the Augustinian monks were very great preachers: consequently, large concourses of people would frequently assemble in the building. Here, Mr. Biddell said, they saw the original plan of a church which was built in Norman times. About 1500, when the neighbouring priory grew richer, the completion of the building was commenced, but the work was cut short by the dissolution of the monasteries. The fine carved oak roof, probably the work of the monks, came in for a large amount of admiration, and subsequently a start was made for the last stopping-place, Great Clacton. The little parish church of Great Clacton received attention, and Mr. Beaumont read the substance of a paper written upon it, which had already appeared in the Society's transactions. He gave the date of the building as about 1150, and mentioned that the heavy groined roof of the original design proved too much for the constructive powers of the builders of those times, for the walls gave way, and the idea of the groined roof had to be abandoned in the restoration. A slab in the church commemorates the fact that Eleazar Knox, second son of John Knox, the Scotch Reformer, was some time vicar of the church. The late hour only permitted of a hasty examination of the edifice, and the last stage of the journey was commenced about five o'clock, Colchester being reached some two hours after.—*East Anglian Times.*

* See *Builder* for June 18 and 25 of this year.

ENGINEERING SOCIETIES.

The Institution of Junior Engineers.—The following is the programme of the summer meeting of this Institution:—August 6 and 7, Buxton. Monday, the 8th—visit to the Lancashire and Yorkshire Railway Works, Horwich. Tuesday—visit to Messrs. Laird's Birkenhead Iron Works and the Sunlight Soap Works, Bramborough Pool; in the evening there will be a reception at the Walker Engineering Laboratories, University College, Liverpool, by Dr. H. S. Hele-Shaw. Wednesday—visit to the Lancashire Watch Company's Works, Prescot; in the evening the Institution Summer Dinner will be held at the Adelphi Hotel, Liverpool, the President, Mr John A. F. Aspinall, in the chair. Thursday—visit to the pumping stations of the Liverpool Waterworks, and the generating station, &c., of the Overhead Railway; luncheon at the Alexandra Hotel by invitation of the Liverpool Engineering Society; in the evening a visit will be made to the Paradise-street station of the Liverpool Electric Supply Works. Friday—a steamer excursion to Llandudno.

METROPOLITAN ASYLUMS BOARD.

Sir Edwin Galsworthy, Chairman, presided at the usual meeting of the Board at the County Hall, Spring-gardens, on Saturday.

Appointment.—Mr. W. T. Farthing, of No. 46, Strand, W.C., was appointed to measure up the additions and omissions in respect of the contract of Messrs. Slaters, Limited, for the extension of the Western Hospital.

Bills of Quantities.—Mr. J. T. Helby moved that the Works Committee be instructed to consider and report upon the advisability of the bills of quantities forming a part of the contract in all future contracts. He pointed out that there had been an extraordinary difference between the architects' estimate and the lowest tender for the new isolation pavilion at the Eastern Hospital. This was accounted for on inquiry by the fact that certain items had been taken out by the quantity surveyor which were not specified by Messrs. Harston, the architects. It was a serious matter that items not included in the specifications should be included in the bills of quantities, and probably the same thing had arisen in many other cases. The letter of Messrs. Harston showed that in the bills of quantities in this case had been included the cost of shoring up buildings which did not exist. A large quantity of excavation for roads was provided for, where there was nothing whatever in the drawings or specifications to warrant the assumption that it would be needed. It was clear the Board had been paying for many things they ought not to pay for, and the question was whether they ought to have a quantity surveyor of their own.—The resolution was seconded by Mr. F. Purchese, and carried.—Mr. Percy Wells moved, "That a return be laid on the table showing the total amount paid to quantity surveyors for the past ten years ended June 30, 1898." This was seconded by Mr. Cochran, and on the suggestion of Mr. Helby, the wording was altered so as to require the separation of the cost of taking out quantities from that of measuring up. After a short discussion the resolution was carried.

Books.

London Riverside Churches. A. E. Daniell. Westminster: Archibald Constable & Co.

The author supplements his previous volume upon the London City Churches (noticed in our columns on January 18, 1896) with a work upon the churches situated on or near the banks of the Thames—those in the City excepted—between Kingston and Greenwich: an attractive subject, and treated in a very pleasant fashion. As Mr. Daniell does not deal with matters of architectural criticism, in the higher sense, and seems to have gathered his materials for the greater part from sources that are commonly accessible, his book scarcely calls for any elaborated review in the *Builder*. Of St. John's, Westminster, which stands conspicuous in the centre of an area to which public attention has lately been directed, he repeats the story that the four towers were added by necessity, to give stability to the fabric, and did not form part of the original design. But four towers *do* appear in the print lettered "Mr. Archer's design of St. John's Church, in Westminster, as it was resolved upon by the Commissioners [for the 'fifty churches']. The alterations made since to this design were done without the consent or knowledge of Mr. Archer." In respect of the modified towers Archer's design shows them as square (they are now rounded) on plan, with another arrangement of columns and entablature, and, instead of the present bell-shaped leaden cupolas capped with cones, he has at their four angles turrets with pilasters, connected by a balustrade, and each of them terminated by an obelisk finial. We may add that thirteen years ago about 800*l.* were expended in alterations of the interior, with removal of the pews, under Mr. Butterfield's

superintendence, and that the font, cited by Mr. Daniell, was carved by J. Thomas after C. Barry's designs. Chelsea is associated with the memories of Sir Thomas More, Sir Hans Sloane, Sir John Fielding, Bishop Atterbury, Swift, Smollett, and many other celebrities: More's Latin epitaph, with its original reference to his being the terror of heretics, is well known; we are reminded thereby that a few weeks ago Cardinal Vaughan opened in Beaufort-street, which occupies the site of the Chancellor's "poor house in Chelsea," a church to be in charge of a French order of nuns who will offer unceasing prayer day and night for the conversion of England to the Roman Catholic faith. Since Mr. Daniell cites the gravestone in the (old) churchyard of Francis Thomas, *obiit* January 6, 1770, "Director of the China Porcelain Manufactory, Lawrence-street, Chelsea," we may mention that the factory stood at the street's south-west corner, close to the church, and that in March, 1759, Nicholas Sprimont, of Chelsea, leased the site from Henry Porter, of Little Suffolk-street, St. Martin-in-the-Fields; on September 29, 1769, he re-leased the site and factory to James Cox, of Shoe-lane, who, on February 9, 1770, gave a lease of the premises to William Duesbery (then of Derby) and John Heath. Duesbery worked there until 1784 when, in terms of the covenants, he demolished the kilns and workshops: he died in November, 1786. In his account of Hawksmoor's church of St. Anne, Limehouse, the author omits to say that after the fire of 1850 the fabric was restored by Sir Arthur Blomfield and the late P. C. Hardwick, and the former, a few years ago, carried out the repair and decoration of the interior, and in 1878, re-arranged the interior of St. Mary Parish Church, Battersea, and restored St. Mary Parish Church, with the Bishop West Chapel, Putney. To Mr. Daniell's list of the most noteworthy churches near the river might be added Pearson's Holy Trinity, Vauxhall Bridge-road, and St. Peter's, Vauxhall, with Sir Arthur Blomfield's churches of St. George, Old Brentford, and St. Matthew, Wandsworth Bridge-road.

Ely Cathedral Handbook. Revised by Dean STUBBS. Ely: Tyndall. 1898.

WE have little but commendation for this excellent handbook. It contains much interesting information, and is very full and complete. Some minor points may be noticed. The Dean does not seem to be aware that the return aisles of the transepts have been shifted back; originally they were as broad as the side aisles, as they still are at Winchester, the Abbaye-aux-Hommes, and St. George de Boscherville. The position of the Lady Chapel is described as unusual. It should be added that the Lady Chapels of Peterborough (c. 1272) and Bristol (c. 1220) are in precisely the same position; both were originally detached buildings. The reason for the northern position in all three instances is probably not ritualistic, but constructional. In a church with a low retro-choir or with an ambulatory, such as Winchester or Norwich, it is easy to build a Lady Chapel to the east; not so where the vault continues in unbroken height to the extreme east end, as at Peterborough and Ely. Bishop West's Lady Chapel is described as a rich specimen of Italian Renaissance. It is a thoroughly Gothic composition, except in the scroll-work and some minor detail. Nor has its vault fan-tracery; it is Bishop Alcock's Chapel which has fan-tracery. And whatever induced Alan of Walsingham to erect an octagon over the crossing, it was certainly not because he wanted "to build up something less likely to fall than the traditional central tower borne upon four open arches"—the reason quoted from Freeman. The "unhappy practice" of raising the aisle-walls and flattening the aisle-roofs was a very sensible one. By inserting large windows in the heightened walls the builders were able to make Ely nave what it is—one of the best-lighted naves in England. To the evidence of the eleventh century date of the eastern transept, it may be added that on that side only voluted capitals occur. An excellent feature in the book is the addition of a list of authorities, to which, however, should certainly have been added Mr. Beresford Pite's paper in the bound volume of the *Builder* series of English cathedrals. Another good feature is a table of dimensions. The Dean also gives an index, three plans, and ten photographs. The Dean has taken a pride in his work, and has done it thoroughly.

An Address Delivered by William Morris at the Distribution of Prizes to Students of the Birmingham Municipal School of Art. February 21, 1894. London: Longmans; 1898.

THIS small book is "Printed at the Chiswick Press and finished on the 18th day of April, 1898," as we are informed in what appears to be the closing paragraph of the lecture, being printed in the same type and as part of the same page; the form and the precise information conveyed being merely a piece of archaism. The type imitates that in which some of the Kelmscott Press books were printed, which looks picturesque on the page, no doubt, but has the serious disadvantage of being very trying to the eyes. The lecture contains very much the same gospel of art, in very much the same words, which Morris preached on various other occasions, and with the same mixture of truth with exaggeration and Utopianism. The best paragraph in it is that on the beauty and interest of natural scenery, whether "grand" or not in the guide-book sense:—

> "Our fault. . . . . is that for the most part we refuse to pay attention to anything in nature which is not tremendous and exciting; it must be an Alpine pass or a rocky sea-shore, or at the least a piece of mountain in England and Wales; less than that will scarcely draw our eyes to beholding. . . . . Yet I must tell you that if you can get no pleasure out of the sight of a Warwickshire meadow, or the hedgerows and little waving hills of my native Essex. . . . . I doubt your capacity for really seeing the huge Swiss mountain and valley scenery."

He goes on to say that what people miss in landscape which makes them call it flat and uninteresting, is that which may be called "character," "which does not depend on either bigness, or roughness, or richness." It may be doubted whether the perception of character in landscape, here referred to, is ever to be acquired where it is not inborn; but the criticism is a perfectly true one.

A Guide to the Guildhall of the City of London. London: Simpkin, Marshall, & Co. 1898.

THIS illustrated book is compiled by Mr. J. J. Baddeley, Chairman of the City Lands Committee, and printed under that Committee's direction, by order of the Corporation. We presume, therefore, that it may be taken as the official exposition of its subject. The first twenty-five pages are given to a summary of the City's history, based upon Dr. Sharpe's volumes, and written in a strain that accords with its mention of Sir Walter Besant as "London's modern historian"—a somewhat confident anticipation of the work upon which he is engaged. The last ninety-two pages deal with ceremonial and other public functions, the insignia, the officials and their duties, and the administrative labours of the Common Council. The remaining space—eighty-three pages—consists of an ordinary popular handbook to the Guildhall and its offices, with a description of the fabric (transcribed from Price's "Historical Account") for which the late Sir Horace Jones designed an open roof (1864) in place of the flat one, and of that architect's Library and Museum and Council Chamber. Full prominence is given to the inscription upon Alderman Beckford's monument (designed by A. Carlini), but it should have been stated that grave doubts exist whether Beckford really addressed George III. in such terms. Gifford, in his "Works of Ben Jonson" (Vol. VI., page 481), says: "He never uttered one syllable" of the reputed speech.

The Law of Employers' Liability and Workmen's Compensation. By THOMAS BEVEN. London: Waterlow Brothers & Layton, Limited. 1898.

THE cry is "still they come!" This stream of works on the subject of Employers' Liability, set in motion by the Act of last year, appears to be like that classical current which ran on for ever. The work, however, at the head of this notice differs in form from others, which we have already noticed from time to time, in that it endeavours to deal with the subject in a scientific manner. It states the law in a series of propositions—some of these appear to be in the nature of truisms, and of so negative a kind as not to require statement. For example, this is No. XV.: "There is no legal liability for any occurrence which can be shown to be due to natural causes, directly and exclusively without human intervention, and which could not have been prevented by any amount of foresight and pains, and care reasonably to have been looked for in the circumstances." Negligence is the foundation of liability, and therefore we do not want to be told that where there is no negligence there is no liability. The work is one of a good deal of interest, for some day we should like to see the law codified, but we doubt if this work in its present form will be of the practical utility of less ambitious books.

My Home and Household Compendium. By J. W. JARVIS and W. J. WOODS. London: Simpkin & Co. 1898.

THE full title of this publication is not that which stands at the head of this notice, but it has the additional words, "What is My Home? What Shall it be? and How Shall I Protect it?" We opened it with some curiosity, and found that it consisted for the most part of blank pages for an inventory, sandwiched between some short chapters on hiring houses and apartments, fire and burglary assurance, &c. These contain what may be called the usual information in the usual phraseology, and we have no doubt that the book will be useful to the young house agent, but it would have been more likely to get into quick circulation if the compilers had called it by a less conundrum-like title.

Electricity in Town and Country Houses. By PERCY E. SCRUTTON. Westminster: Archibald Constable & Co., 2, Whitehall-gardens. 1898.

THE author says that the object of this little book is to give a popular description of the many uses to which electricity can be put in domestic life, and the cost which its use entails. He has been fairly successful in accomplishing this object, although perhaps he lays undue stress on the importance of some of the applications, and does not dwell enough on the cost. There is great diversity in the subjects chosen for illustration; we have, for example, a Willans triple expansion engine of a thousand horse-power or so directly coupled on to a huge dynamo, and a few pages afterwards microscopic motors driving sewing machines, mangles, &c. There are one or two of his statements with which we do not agree. He says that a very usual size of engine for a "good-sized" country house is *thirteen* horse-power. It looks as if the author had been thinking of a 10-kilowatt dynamo. Again, he says that there is no danger to life with continuous currents up to 1,000 volts. We wonder, then, what caused the many deaths in America from contact with wires at 500 volts. Mr. Scrutton recommends that a battery charge and discharge meter should always be employed in private installations, to show at a glance the state of the battery. The expense of an ampère hour meter would be, however, in many cases prohibitive. A cell-tester costing twenty or thirty shillings is often more useful than an Aron meter costing twenty or thirty pounds. A good description is given of electric heating apparatus.

Manual of Fire Drill. By COMMANDER LIONEL WELLS, R.N., Chief Officer, M.F.B. P. S. King & Son.

THE first part of this little volume comprises the general instructions in force in the M.F.B. as regards duties, drill, classes, &c., followed by a short description of the apparatus used. Then come various drills with ladders and escapes, a further description of appliances, and, lastly, some useful notes as to precautions with gas, chimney fires, the stowing of a manual engine, the geography of London, water-supply, electrical communication, and first aid for burns and scalds.

The second part has the heading "Steam Fire-engines"; and whilst dealing with the appliances used by the Brigade and the methods of working different kinds of steamers, comprises under the sub-tiitle "General Knowledge" a treatise of nearly fifty pages recording the elementary facts of heat, steam, &c.

As to the first part, the hints, if taken as an indiscriminate collection of useful notes, fulfil their purposes admirably; but they cannot be regarded as anything like a serious treatment of the Fire Brigade routine and drill. Even in their general arrangement they show lack of editing, and there is no reference to the most elementary processes of building construction, which play so important a part in fire brigade work, and to which we think the recruit's attention should be directed from the very

first. We do not like, too, to see the author use "fathoms" as the linear measurement in laying out hose. It would be better to keep to the unit of feet in all descriptions, and not to introduce nautical terms. The lengthy explanation as to laying out and working hose, by-the-bye, reminds us most forcibly of the very unpractical screw couplings which are still in use in the Brigade. Surely it is time that a bayonet and reversible coupling were introduced in order to avoid the frequent loss of time occasioned by the older appliance.

As to the second part, the directions for working a steam fire-engine are clear and concise—in fact, the style in which the preparatory arrangements are defined by a few terse expressions is admirable. We quote these words, as they should be of considerable use to enginemen in charge of steam appliances for building operations :—

"Preparatory to a steamer being sent for service or to a station, the following must be attended to :—

1. Boiler to be clean in fire-box and all other accessible parts.
2. Fire-bars to be straight, in good condition, and well secured in position.
3. Regulator (or stop), safety, and other valves, injectors and glands attached, steam gauges, blast and other cocks, to be in good working order.
4. Boiler to be run up with clean, fresh water to working height, as shown by gauge glass guard, care being taken that the top and bottom cocks of gauge mountings are clear and open to boiler and gauge glass (to prevent a false height of water being shown in glass) ; observe that there should not be less than 5 in. of water over crown plate of fire-box before lighting up.
5. Safety valves to be slightly raised or blast cock opened whilst filling boiler, to allow escape of air.
6. Laying fire : care must be taken that both wood and coals are in dry condition, the latter being of medium-sized cubes, or rubbly.
7. No oily waste, or other inflammable material, should be put in furnace until the order is given to light fire.
8. Bunker to be filled with good, dry, rubbly coal, and sufficient wood taken to relay the fire once, in the event of it becoming necessary, through accident, to draw the fire.
9. Fire-irons, the specified number allowed, to be in good condition, and properly stowed for use.
10. Feed tank to be filled with clean, fresh water, and lid screwed down to prevent waste.
11. Funnel cover or damper to be in position.
12. Lamps to be properly trimmed with clean oil and wick ready for lighting.

Taken altogether, this little manual should be of considerable service to the Brigade, and the circulation of hints of this description among its members cannot fail to benefit the ratepayers. The idea of attempting to improve the intellectual status of the firemen with the aid of "General Knowledge" is praiseworthy, while the hints as to appliances and drill, besides helping the recruits, should prevent the older men from forgetting those matters, which is a common complaint.

Of course, this little collection of hints must in no way be confused with the standard manual of Sir Eyre Massey Shaw, which was first published in 1876, and revised in 1890. Captain Shaw's book is a manual in the true sense of the term. This little volume does not pretend to such importance.

Sanitary Engineering. By Wm. Paul Gerhard, C.E., Consulting Engineer for Sanitary Works, Member of the American Public Health Association, &c. New York : Published by the Author. 1898. 132 pp.

On pages 99 and 100 of this book Mr. Gerhard, speaking of the sanitary engineer, informs us that, "in order to deserve universal respect, he should . . . . avoid sensational writing or advertising, and confine himself . . . . to such legitimate advertising as he may accomplish by" . . . . among other things . . . . "the dissemination of essays, or by lectures." Perhaps Mr. Gerhard will not be angry if we fit the cap on himself, for really it would be difficult to discover what other purpose than his own "legitimate advertising" the dissemination of this lecture and newspaper-article in the form of a book will serve. A man who attempts to deal with the whole subject of the education and practice of a sanitary engineer in the short space of 20,000 words, and with the subject of "Sanitary Engineering in relation to Habitations," including public buildings of all sorts, n less than 250 words, can hardly be surprised if the result is satisfactory to no one but himself. The book is one tissue of platitudes and of repetitions of statements which are the axioms of sanitary engineering ; here and there are sentences of value, but, like Falstaff's bread, they do not figure very largely. At the best, the work is the barest outline of the subject of which it professes to treat, and as an outline is not by any means without value ; but to dignify it with the comprehensive title of "Sanitary Engineering" is to draw upon the author the inevitable comparison between promise and performance.

Street-Cleaning and the Disposal of a City's Wastes : Methods and Results, and the Effect upon Public Health, Public Morals, and Municipal Prosperity. By George E. Waring, Jun., Commissioner of Street-Cleaning in the City of New York. London : Gay & Bird. 1898. Pp. 230.

This is a record of Colonel Waring's work as Commissioner of Street-cleaning in the City of New York, during the last three years. It is a record which would have won the praise of Carlyle, for the hero of it has reformed a corrupt administration, freed an important department from the control of selfish and unscrupulous politicians, cleansed miles of streets which had aforetime reeked with filth, inculcated cleanliness among the citizens and especially among the children who are the citizens of the future, and roused an *esprit de corps* among the scavengers of the city, who had, up to the time of his coming, been as lazy and careless as the administration was corrupt. One example of the strange influence exerted by "politics" a few years ago in the capital of the United States may be quoted. A man, who had been engaged at the request of a Tammany politician, was told by the foreman to set to work ; "the man replied, 'I didn't come here to work.' He was reported at once for dismissal, and was suspended. He returned the next day, reinstated and irremovable."

Space forbids a full account of the contents of Col. Waring's book, but a brief summary will serve to show its value to British municipal engineers. The re-organisation of the force is a splendid specimen of administrative capacity; the Men's Committee and Board of Conference, for considering complaints and suggestions, being well deserving of imitation. Chapters are included on "Street-sweeping," "Carting," and "Final Disposition of Garbage" as well as of "Street-sweepings and Ashes" and "Paper and Rubbish." One chapter deals with street-cleaning, &c., in some of the chief towns in Europe, London being truly described as "the most unsatisfactory town imaginable as a place in which to study municipal administration" ; a good word, however, is said for its paving, which is stated to be "*much* better" than that of New York. The work also contains chapters written by Col. Waring's assistants, on the work of their several departments. We can recommend the book as a clear and readable account of the reforms introduced in the street-cleaning of an important city. It contains hints and suggestions of methods and results differing from English practice, and will not detract from the high reputation which Col. Waring enjoys as a writer on sanitary matters.

The Municipal and Sanitary Engineers' Handbook. By H. Percy Boulnois, M.Inst.C.E., F.San.Inst., &c. Third Edition, Revised and Enlarged. London : E. & F. N. Spon. 1898. Pp. 474.

This is the third edition of a book a copy of the first or second edition of which is in the hands of almost every municipal engineer. The book has been almost entirely reset, new matter having been introduced throughout ; thus, on p. 53 of the new edition, an important table is given, containing the result of the author's observations in Liverpool as to the cost of repairing streets paved with sets, wood, and macadam ; while the old table, giving the cost of repairing macadamised roads in various towns, has been omitted. The chapters on "Wood Paving" and "Lighting Streets" have been almost entirely rewritten, and notable additions have been made in the chapters on "Curbing and Channelling," "Improvement of Private Streets," &c. Scarcely anything, however, is said about the filtration of sewage, and iron drains, and the omission of all mention of the newer types of refuse-destructors, such as the Horsfall and the Beaman & Deas furnaces, is unfortunate. The book, however, is full of valuable information, and covers a wide field. It is undoubtedly the best handbook for the municipal engineer.

BOOKS RECEIVED.

The Universal Directory of Railway Officials, 1898. By S. Richardson Blundstone. (The Directory Publishing Company, Limited, Catherine-street, Strand.)

Illustrations.

EXAMPLES OF AMERICAN SCULPTURE.

These illustrations of some recent works of American sculpture are from the illustrated catalogue of the exhibition of the American "National Sculpture Society" at New York, of which we published some account recently in an article contributed by an American correspondent.

Of the examples illustrated, the most original character is shown in the group of mother and child by Miss Potter and in the bronze bust by Mr. Grafly. Mr. Moretti's design for a tomb is obviously suggested by M. Bartholomé's work. Mr. Ward's "Poetry" we like least ; it may look better in a side view ; as seen here it rather reminds us of Mr. Dodd's effort, described in the Parisian portion of "The Wreckers" as a piece of monumental sculpture for a "Hôtel de Ville," of which the French sculptor who visited his atelier observed "For America—ah ! ver' good, ver' good."

SKETCHES WITH THE ARCHITECTURAL ASSOCIATION EXCURSION.

These sketches are of some of the buildings and places of interest in Warwickshire that the Architectural Association visit on their excursion next week. An account of the proceedings of the Association will be commenced in our next issue.

Correspondence.

To the Editor of The Builder.

"WHAT IS THE SCENE ?"

Sir,—In the article, in your issue for July 23, on the mechanism of the stage you deal with the serious difficulties of scale that arise : as when a cottage interior has to be followed by that of a palace, an open *place*, by a narrow street, &c. Both must be somehow reconciled with the constant, never-changing proscenium opening. This embarrassment really arises from a false conception of the limits of scenery. For many years I have been occasionally calling attention to a theory of my own, which I believe to be the true solution, and which, strange to say, seems never to have occurred to writers on the subject.

It is found in the answer to the question "What is the scene ?" and, until "the scene" is clearly defined and understood, we shall wander in the dark. The "scene" is not the proscenium opening, not the cloth "built-up" structures, or "wings." Neither is it, nor should it be, the complete presentment in its entirety of the place where the incident occurs ; for, if it be a room, it seems now incumbent that we have the whole room before us ; and, in the case of a square or a court, the whole square and court complete. This it is which leads to the scale embarrassments before alluded to.

No, the true meaning of "the scene" is found by applying it in the same fashion that we do in real life. An exciting incident occurs in the street or in a room. The person who witnesses it or figures in it has before him just the amount of space and objects as are immediately round the personages. He sees nothing beyond that, and his eye does not take in more. It is exactly the same on the stage. The "scene" is, or should be, the zone immediately about the characters, and no more. This zone must be a constant quantity, always of the same dimension whether for the cottage or for the palace interior. So here we have a principle to start with, and the only difficulty is to apply it practically.

At Old Drury, in Garrick's day, when the vast theatre was lit by oil lamps only, it seems difficult to conceive how the scenery and *salle* could have had sufficient illumination. It was contrived by lighting merely the centre of the stage, just as a common room would be lighted—by hanging great chandeliers over the actors' heads. It was only the *zone* that was thus lit, the rest was left in comparative shadow. The real scene, therefore, was in the

centre: the back, cloth, wings, &c., were all sketchily indicated. As we know, the wings or sides represented general indefiniteness, for the room was not enclosed as it is now, and the actors came on and went off in an indistinct way, not passing through doors. The direction, "Exit," in fact, perfectly expresses this generality—*i.e.*, disappears.

It would be easy to apply these principles—provided they were skilfully worked out. As in real life, the spectator does not see every portion of a room distinctly or take note of every detail or ornament, but simply recalls that he had been in a room with furniture, &c. So should the scene-painter exhibit just enough to show the character of his room, leaving its size, furniture, &c., indistinct, like pictures on tapestry.

PERCY FITZGERALD.

The Student's Column.

SOUND, LIGHT, AND HEAT.—VI.

THE VELOCITY OF SOUND (*continued*).

WE have seen the importance of ascertaining the hygrometric state of the atmosphere in connexion with problems appertaining to the velocity of sound in air. It will be well to see how that state is best determined. Everybody knows of the principles relating to the measurement of rainfall by means of the rain-gauge. Although they fall well within the science of hygrometry, we are not now immediately concerned with them, but will pass on to that section of the subject which deals more directly with the consideration of moisture present in the air in a vaporous form. Aqueous vapour is the most abundant element in the composition of the atmosphere, next to the more important — nitrogen and oxygen.

Hygrometry deals with the determination of the amount of water present in air in the state of vapour. This is arrived at by two methods, either direct or indirect. The measuring instrument is called a hygrometer. The "direct hygrometer" is exemplified by the simple experiment that whenever a glass of cold water is brought into a warm room drops of water appear on the outside of the glass. But for scientific purposes we must have recourse to specially devised instruments. They are all made on the same principle, viz., "that * the moment the temperature of any object falls below the temperature corresponding to the maximum tension of the vapour present in the atmosphere at the time, there will be a deposition of moisture upon it, which will at once be visible if the surface be of polished metal or of glass. The temperature at which this deposition takes place is called the dew-point." In one instrument we have two bulbs connected by a tube bent twice at right angles. One of these bulbs is of black glass, and the other of ordinary glass coated with linen. A thermometer is enclosed in the black bulb and the instrument contains some ether. To use the instrument ether is dropped on the linen wrapped round the clear bulb. This causes the temperature of the air in that bulb to fall, and consequently to bring over the ether contained in the black bulb. The temperature of the air in the latter is thus lowered, and we soon find that the exterior of the black bulb becomes covered with moisture. The moment the moisture puts in an appearance the temperature of the interior, as recorded by the thermometer referred to is read, and that temperature is the dew-point.

A more simple instrument, commonly used in observatories, consists of a vase fitted with a pipe at the bottom, which is conducted close under a plate of black glass, where it also envelops the bulb of a thermometer, a cock being fitted to the base of the vase. In using this instrument, Mr. R. H. Scott observes, very cold water, or ice and water, is put into the vase and the cock is opened; the glass soon becomes coated over with moisture, and the thermometer is at once read. The cock is closed again, the water in the tube soon rises in temperature, and the cloud disappears, the moment of its disappearance being that when the dew-point is again reached. The results may be checked by repeated observations with this instrument, which is known as Dines' hygrometer.

Indirect hygrometers are of two kinds, the organic and inorganic. The former depend on the property of organic bodies to alter their molecular arrangement, or their appearance, according to their hygrometric condition. These have their uses in a popular sense, but none of them are of value for truly scientific purposes. The inorganic hygrometers are much more important, the most prominent of which —Leslie's "dry-and-wet-bulb"—is in almost universal use. The latter consists of two thermometers of which one has its bulb coated with muslin and kept moistened with water. The principle of this instrument, as described by Scott, is that as long as the atmosphere is not saturated with moisture, evaporation will take place from any damp surface exposed to it, such as the moist coating of the wet bulb. If the air be saturated no evaporation is possible, and the two thermometers will read alike; but if it is not saturated the temperature of the coated bulb will fall until it reaches a certain point intermediate between the temperature of the dry-bulb thermometer and of the dew-point. Once that limit is reached, if the supply of water be kept constant, the wet bulb will not change its indication unless the actual amount of moisture in the air varies. For further information on hygrometry the student may consult Scott's work referred to.

The distribution of moisture in the atmosphere, and therefore indirectly the velocity of sound, is extremely local. We have seen how far the presence of fog may retard or assist the propagation and transmission of sound; it must have its effect also on velocity, though it by no means follows that retardation means a corresponding loss of penetration. The real nature of the vehicle conveying the sound seems to have more influence on its powers of penetration than the actual velocity attained during its progress. This should be borne in mind in considering the acoustic properties of a building. So long as the sound penetrates to the right quarter its velocity, although important, is not of vital interest, provided always—and this is most important—that the sound is received on a suitable substance. Otherwise problems connected with reflection and echoes creep in. As we shall see later on, however, the shape of the receiver is also a very important factor—no less than the nature of the substance of the receiver. It may be taken as a general rule that the sooner the sound is received at its proper destination the better, so that hygrometric conditions of interiors (often bound up in the substances lining the walls) must be carefully attended to, amongst other things. Every opportunity should be given to the sound, and its direction moulded, if possible, in spite of what has just been said. A foot or two per second may not seem much on paper, but may be of consequence in practice; and we must not forget that as the velocity increases with increase of temperature to the extent of about 2 ft. for every degree Centigrade, it is, other things being equal, eminently to the advantage of the acoustic properties of the interior of a building to keep the latter of an even temperature.

Problems connected with the velocity of sound are closely related to the velocity of earth waves in solid substances. As might naturally be supposed, the rate of the latter largely depends on the nature of the substance through which it passes. Mr. Mallet found that the shock produced by an explosion of gunpowder travelled at the rate per second of 951 ft. in wet sand, 1,283 ft. in friable granite, and 1,640 ft. in solid granite. Other observations show that the wave of shock (in earthquakes) varied from 658 ft. to 989 ft. per second, the mean rate being 789 ft. Again, we have a result of 2,433 ft. per second for the earth waves of the Central European disturbance of 1872, though the nature of the ground was extremely variable.

The consideration of the velocity of sound in gases of different sorts barely comes within our province, but it may be remarked that the velocity of the propagation of sound in gases is "directly as the square root of the elasticity of the gas, and inversely as the square root of its density." The velocity of sound must therefore be the same under any pressure; for, although elasticity increases with increased pressure (as we have already seen), density increases in the same ratio. Knowing the velocity of sound, we can calculate approximately the distance at which it is produced.

In summarising this section we may quote the following values as the velocity of sound in various gases:—In

Carbonic acid.....	856 ft.	per second.
Oxygen	1,040	„ „
Air.....	1,093	„ „
Hydrogen	4,163	„ „

The velocity of sound in liquids has frequently been determined. It is found to vary with the temperature. Atkinson quotes the following results:—

	Deg. C.	Feet per second.
River water (Seine)	13	=4,714
Do. „ „	30	=5,013
Artificial sea water.....	20	=4,761
Mercury	10	=4,866
Solution of common salt	18	=5,132
Absolute alcohol	23	=3,854
Turpentine	24	=3,976
Ether.....	—	=3,801

The relative compressibility of liquids is, of course, a considerable factor in the velocity of propagation of sound in them.

* Scott, "Elementary Meteorology," 1883, p. 103.

OBITUARY.

M. CHAS. GARNIER.—Just as we go to press we hear of the death of M. Chas. Garnier, the well-known architect of the Paris Opera House.

M. J. EDOUARD DEPERTHES.—M. Joseph Edouard Deperthes, who in 1873 gained *ex æquo* with Théodore Ballu the first premium in the competition organised by the city of Paris for the rebuilding of the Hotel de Ville, and who, after the death of that eminent architect, completed the municipal buildings, has just died at Rheims at the age of sixty-five. M. Deperthes was born at Houdilcourt (Ardennes) and was the pupil of Brunette. He was successful in numerous open competitions, which led to his being entrusted with the construction of a large number of buildings, both civil and ecclesiastical, notably the Church of Notre Dame, d'Auray (Morbihan). He likewise competed for the rebuilding of the new Sorbonne and the completion of the cathedral at Milan. A talented artist, endowed with exceptional fertility of design, he exhibited at the annual Salons some very remarkable drawings, amongst which we may mention especially a design for the decoration of the Salon des Cariatides at the Hotel de Ville, exhibited at the Salon of 1895, and the paintings for which were the work of M. Flameng. M. Deperthes was awarded medals in 1865, 1867, 1878, and 1889, and he received the decoration of the Legion of Honour in 1882. Finally, he had been appointed to design one of the palaces of the forthcoming Exposition of 1900.

GENERAL BUILDING NEWS.

ST. AUBYN CHURCH, DEVONPORT.—St. Aubyn Church, which has been closed for some time for the purpose of carrying out several alterations and improvements, was reopened on the 27th ult. The west gallery of the church has been removed, and the side galleries continued to the west end. The church has been refloored with a concrete and wood block floor, and the outside of the building has been trenched and drained. The old seats have been removed, and chairs substituted. Two new heating stoves have been provided. The church has been relighted with pendants and brackets, and recoloured and redecorated throughout. The architects were Messrs. Tait & Harvey, of Exeter, and the contractors Messrs. Parker Bros., of Newton Abbot.

NEW VESTRY, ST. JOHN'S CHURCH, DERBY.—The new vestry at St. John's Church, built in memory of the late Mr. Councillor Raymond Slater, has just been dedicated. It is of stone, 25 ft. by 20 ft., and is situated on the north side of the church. The builders were Messrs. Walker & Slater, and the architects, Messrs. Naylor & Sale.

RE-OPENING OF REDHILL CHURCH, NEAR BRISTOL.—The district church of Christ Church, Redhill, has just been reopened by the Bishop of Bath and Wells. Mr. H. Overton Wills, of London, was the architect, and Messrs. William Cowlin, of Bristol, were the contractors. What is now completed consists of new north transept, containing the organ and a vestry; wood block flooring to the whole of the church, new plastering to the walls, the removal of west gallery, the formation of a baptistry on the ground floor of the tower, and a hot water heating apparatus, besides minor details. The further improvements to be carried out as funds come in are:—Stone chancel and tower arches, stone jambs to the windows, chancel and vestry oak screens, seats in chancel, and benches for the whole of the church.

CATHOLIC CHAPEL, SOUTH INFIRMARY, CORK.—The foundation stone of a new Catholic Chapel has just been laid at the South Infirmary, Cork. The chapel is designed in the Early Pointed style. It is 56 ft. long by 22 ft. wide internally. At the west end is an entrance porch; the east end is in the form of an apse, beyond which is a sacristy. The length of the chapel is divided into four bays, exclusive of those of the apse, by arched roof principals. Each bay contains a window, and each bay of the apse has a similar window. At the west entrance, over the entrance porch, is a rose window. The architect is Mr. S. F. Hynes, and Messrs. E. and P. O'Flynn are the builders.

AUCHTERLESS FREE CHURCH, ABERDEEN.—After having been closed for a considerable period for alterations and renovation, Auchterless Free Church was reopened on the 24th ult. The improvements consist of the almost entire renovation of the interior of the church. The main alteration has been the removal of the whole of the old seats and the substitution of new pitch-pine pews. A new

pulpit has also been introduced, and the choir as well has undergone renovation. A new feature is the introduction of two stained-glass windows at the pulpit end of the church. The windows are the work of Mr. Copland, Aberdeen. The improvements were carried out by Mr. Teunon, joiner, Turriff; and Mr. Watson, painter and glazier, of the same place. The scheme of renovation was designed by Messrs. D. & J. R. M'Millan, architects, Aberdeen.

U.P. Church, Greenock.—The memorial-stone of the hall in Union-street which the Union-street U.P. Church are erecting has just been laid. The plans were prepared by Mr. J. B. Stewart, architect, Greenock, and the following are the contractors for the work:—Wm. Steel, mason; James Agnew, joiner; Clark & Selkirk, plumbers; James Harvey, plasterer; D. Phillips & Sons, slaters; F. Logan & Sons, gasfitters—all of Greenock.

Wesleyan Chapel, Shirebrook, Nottingham.—The foundation stones have just been laid of a Wesleyan school-chapel, at Shirebrook. Mr. J. E. Goodacre, Mansfield, is the architect, and the building is being carried out by Mr. Rigley, of Kirkby-in-Ashfield.

Grammar School, Dudley.—The foundation stone has just been laid of a new grammar school at Dudley. The new buildings, which will accommodate 150 boys, comprise a large central hall, five class-rooms, and head master's house, and are being erected by Messrs. Webb & Round, of Dudley, from the designs of Messrs. Woodhouse & Willoughby, architects, of Manchester. The total cost is estimated at 10,000*l.*

Laboratory, Bromsgrove School, Birmingham.—The Millington science laboratory or technical department has just been opened at Bromsgrove School. The laboratory stands at the corner of the quadrangle formed by the present building of the school. It is built of sand-faced bricks, and with facings of Monk's Park stone, and a covering of purple-red Broseley tiles. The building, which is of two stories, comprises a lecture-room, chemical and physics laboratories, a dark room for photography, carpenters' and turners' shops and stores. The work has been carried out by Messrs. J. & A. Brazier, of Bromsgrove, from the designs and under the superintendence of Messrs. Lewis Sheppard & Son, of Worcester.

Newtown Intermediate Schools, Montgomeryshire.—The Newtown Intermediate School buildings were opened recently by Principal Viriamu Jones. The school provides accommodation for 128 students—seventy-two boys and fifty-six girls. Separate entrances, exits, cloak-rooms, and lavatories for each sex are provided. The masters' and mistress' rooms are placed on either side, adjoining the assembly hall, and are so placed as to command the corridors, &c. Private lavatories adjoin them. The assembly hall is centrally situated, and it can accommodate about 200 persons. The hall is capable of being divided, when required, into two class-rooms by means of a folding partition. Four class-rooms, two for boys and two for girls, are arranged behind the assembly hall. An art room with north light is provided. The technical departments of the building provide on the boys' side a workshop and lavatory, and on the girls' side a laundry and cookery class-room, all specially planned for the particular subjects to be taught. The technical rooms are isolated from the school proper. On the first floor separate luncheon-rooms for boys and girls are provided, and rooms for storage. The architect of the building was Mr. H. Teather, Cardiff and Shrewsbury. Mr. W. H. Thomas, Oswestry, was the contractor, and Mr. E. Parke, Newtown, clerk of the works. The total cost of the building was 3,000*l.*

Industrial School, Edinburgh.—The new day industrial school in Edinburgh, which has been erected by the School Board for the compulsory treatment of truant children under their care, is now completed. Occupying a site in St. John's Hill, where the Holyrood Free Church manse formerly stood, the buildings are in the old Scottish style, and in harmony with the architecture of the old town. The frontage is to the north. The school is substantially built, the masonry being faced with Corncockle stone; the partitions in the interior are of red brick, the lower part being glazed. On the ground floor is situated the office of the school, and adjoining there is a small bath-room. To the right of the entrance are the large play-rooms, divided by a folding partition, so that on certain occasions the rooms may be formed into one large hall. Off these play-rooms are the boys' and girls' lavatories, fitted with wash-hand basins, baths, and a hot and cold service. There is also a large plunge bath. For the girls, who will do the washing and cleaning required in the school, there is a washhouse, with boiler and fixed tubs, &c. In the basement there are the hot-water boilers. Corridors run from one end of the building to the other on the first and second floors. In the former is the scholars' dining hall. The kitchen adjoining has a service window communicating with the dining hall. The scullery and store-rooms open off the kitchen. Other conveniences have been arranged, and all enter from the girls' side of the school. On the other side of the corridor are two class-rooms, capable of holding forty children each, and separated by means of a folding partition. On the same floor are also the Board-room, which the officials will also use as a dining-room, the lady superintendent's private room, and the officials' cloak-room and lavatories. The top story contains a couple of class-rooms corresponding to the ones below, a large workroom, which will probably be fitted up as a joinery, and other spare rooms in which will be carried on any other industry which the Board may prescribe. The janitor's house is also on this flat. Mr. Robert Wilson, architect, designed the buildings, which were erected by Mr. James Kinnear, builder. The other contractors were Messrs. Charles Ritchie & Co., heating and ventilating engineers; and Mr. W. A. Campbell, painter. The cost of the building, which is certified to accommodate 160 scholars, is a little over 9,000*l.*—*Scotsman.*

Technical Buildings, Dorchester Grammar School.—The new Technical Buildings at the Dorchester Grammar School have just been opened. The new building has been erected on the site of two old houses at the back of the Grammar School playground and abutting on Charles-street. It was designed by Messrs. Crickmay & Sons, architects, of Weymouth and Westminster. The work has been carried out by Messrs. P. Barrett & Son, builders. The school is built of Broadmayne and Chickerell bricks and roofed with Broseley tiles. On the ground floor is a room 37 ft. long, 18 ft. 8 in. broad, and 13 ft. high. The first length of 25 ft. is partitioned off for a carpentry shop, and the remaining space of 12 ft. is devoted to the teaching of physics. The rooms are floored with wood blocks and provided with benches. Above this is a chemical laboratory, reached by an external roofed staircase. It is of the same dimensions as the lower room—37 ft. long and 18 ft. 8 in. broad—while the height to the roof ridge is 21 ft. It is lighted with four windows on each side and a window in the north gable.

School, Glaisdale, Yorkshire.—A new Board School is being erected at Glaisdale. The building is of stone, and will accommodate about 200 scholars. The size of the school-room is 45 ft. by 18 ft., whilst there is also a class-room 20 ft. by 18 ft.; and two cloak-rooms, one for boys and the other for girls. Mr. E. H. Smales is the architect, and the plumbing work has been carried out by Mr. Isaac Stephenson; the painting work being executed by Mr. F. C. Agar. Mr. R. Harland, of Whitby, is the contractor. The approximate cost of the building is 2,000*l.*

Cottage Hospital, Emsworth.—The new Victoria Cottage Hospital has just been opened at Emsworth. The site of the hospital is in North-street. The building is of red brick and stone, and has been erected by Mr. W. Poate, of Westbourne. The plans were by Mr. John Birch, Adelphi.

Cottage Hospital, Margate.—The memorial stone of Margate Cottage Hospital has just been laid in Victoria-road. The new building has been designed by Mr. W. J. Mercer. The design leaves the existing wards, operating theatre, bath-rooms and water-closets untouched, but provides for an entrance hall on the ground floor 5 ft. wide and a ward for two women on the right, 11 ft. by 17 ft.; and on the left a ward for four men, 19 ft. by 17 ft., exclusive of bay-window. The receiving room is a part of the large hall, 12 ft. by 14 ft., and a bath-room for men is provided adjacent to each male ward. A linen room adjoins the "Wilcox" ward and glass screens are placed in the receiving room to separate the male and female patients. On the first floor there are matron's sitting-room, bedroom, extra room or ward, nurses' bedroom, bath-room, &c. In the attic there is a bedroom for two servants, and in the basement a lower hall, nurses' sitting-room, potato store, coal cellar, and larder.

New Palace Theatre, Plymouth.—This Theatre is now practically completed, and the opening will take place very shortly. The theatre, which has been carried out from the designs of the architect, Mr. W. H. Arber (J. T. Wimperis & Arber), of Piccadilly, with the Great Western Hotel adjoining, which is also being rebuilt by the same architect, and has been incorporated in the design, forms an imposing erection, the site of the two buildings together being about 120 ft. by 140 ft. The front has been executed in terra cotta by Messrs. Doulton & Co., of Lambeth, the ground story throughout being in glazed ware. One of the principal features of the front is the reproduction in colour of two pictures of the Armada by Sir Oswald Brieley. These are placed in two large semi-circular panels at the two ends of the theatre front on the first floor level. A wrought iron sign, executed by Messrs. Hardman, Powell, & Co., projects from the front of the theatre. Accommodation is provided for about 2,000 people. There are two tiers above the stalls and pit level. The stalls are reached by a corridor leading from the front entrance hall under the pit, thus economising the space at the sides of the house. The decoration of the interior is English in character, painted scenes of British naval and military triumphs occupying the principal divisions of the large dome over the centre of the house and other large decorative spaces, while the balcony and gallery fronts have a series of portraits of British heroes entwined in laurel. The paintings have all been executed by Mr. H. C. Brewer. In the entrance hall are two friezes by the same artist. The contractors, both for the theatre and hotel, are Messrs. W. Johnson & Co., of Wandsworth Common, and the following are the sub-contractors: steel constructional work, Messrs. Moreland & Son; electric lighting, Messrs. Veale, of St. Austell; decorations, Messrs. Hooydonk & Co.; furnishing, Messrs. Dean, of Birmingham.

Alterations at the Sheffield Theatre Royal.—During the last few weeks various structural alterations have been in progress at the Sheffield Theatre Royal, Mr. Frank Matcham, architect, having supervised the work. A verandah has been erected, covering the whole of the frontage and the gallery entrance at the side. New lobbies and vestibules have been provided, with mosaic flooring and ornamental ceilings. The staircase to the dress circle has been widened, and the wall and ceilings ornamented in harmony with the grand vestibule. The staircase opens into a large foyer, which leads to the dress circle, and adjoining is a lounge, which opens on to the saloon. An improvement has been effected in the seating and accommodation of the stalls, and for this purpose a staircase has been erected. At the auditorium side an improved exit has been formed into the side street. The theatre has been redecorated throughout from the designs of the architect, the predominant colours being cream, blue, and gold. The theatre is lighted throughout with electric light.

Laundry, Low Fell, Durham.—New buildings have been erected at Low Fell for the Provincial Laundries, Limited. The buildings have been erected on the site immediately adjoining the main road between Gateshead and Durham. They have been carried out with Birtley bricks, with pressed brick mouldings and arches from Mr. Foster's works at Pelaw, the upper part of the walls being rough cast. The contractor for the building was Mr. J. C. Hope, and Mr. Mackay acted as inspector, and the whole of the works have been carried out from the designs and under the superintendence of Messrs. Oliver & Leeson, architects, of Newcastle-on-Tyne.

Public Baths, Folkestone.—New public baths at Foord were opened recently. Mr. Pope, of Folkestone, was the architect, and Mr. Fearon was the contractor.

Museum, West Bromwich.—On the 25th ult. "The Oak House," West Bromwich, with its grounds, was opened to the public as a museum and pleasure ground. Under the supervision of Messrs. Wood & Kendrick, the house has been restored to its original state, and handed over to West Bromwich.

Public Offices, Windermere.—On the 22nd ult., at Windermere, Mr. W. A. Ducat, Local Government Board Inspector, held an inquiry into an application of the District Council for leave to borrow 2,500*l.* for the purpose of erecting Council offices. Mr. R. Walker, the architect of the scheme, said the premises would cost about 1,700*l.*

Store Houses for Reservists.—Additional buildings are required at Lancaster and Bury for her Majesty's Government, and they are to be erected immediately. The contracts have been given to Mr. Samuel Warburton, of Miles Platting. The work is to be carried out under the superintendence of Major Sharpe, R.E., Liverpool.

Hotel, Machrihanish, Argyllshire.—A three-story building, to replace the hotel at Machrihanish, which was destroyed by fire in February last, is about to be erected on the site of the old hotel. Plans by Messrs. Sydney Mitchell & Wilson, architects, Edinburgh, have been approved. The new hotel will have a frontage to the bay of 176 ft.

The New Shire Hall, Durham.—The formal opening of the new County Buildings at Durham has just taken place. The site is in Old Elvet, and the estimate of the cost of erection, furnishing, &c., was 22,000*l.* The architects were Messrs. Barnes & F. E. Coates, of Sunderland and West Hartlepool, and the building has a frontage of about 200 ft. The buildings extend in the rear to a depth of 150 ft. The front elevation is of red terra-cotta, from Messrs. Monk & Newall, of Ruabon, and the sides and back are of brick with buff terra-cotta dressings. A flight of steps of some 40 ft. lead up to the front entrance, which is through an arched doorway. The ground floor is occupied by the Council Chamber, committee rooms, and reception rooms, and by the offices of the Clerk to the County Council. The ante-room and Council Chamber are both large rooms. The committee rooms are large and well lighted. On the first floor are the offices of the County Surveyor, the County Accountant, the Medical Officer, and the Education Secretary. The second floor is taken up with the laboratories, libraries, &c. There is a large basement containing store rooms, &c. The chief feature of the elevation will be the tower, with its dome. The contractors were Messrs. D. & J. Ranken, of Sunderland; the clerk of works was Mr. J. G. Kilburn.

Cottage Homes, Gravelly Hill, Birmingham.—New cottage homes are being erected at Gravelly Hill for the Aston Board of Guardians. The architects are Messrs. Franklin, Cross, & Nichols. The architects' plans were originally drawn for the accommodation of "families" of thirty, but at the instance of the Local Government Board they have been amended so as to provide for "families" of not more than sixteen, space being found in the altered designs for a total of 250 children. The new buildings face the workhouse on the opposite side of Union-road, and are divided by a broad roadway into two sections, one for girls and one for boys. In the centre of the former is situated the superintendent's house; at the Fentham-road end

is a probationary lodge for the detention and examination of new comers, and at the opposite extremity are the church and schools and the infirmary. In each section are seven homes for the accommodation of sixteen children each, and one for twelve children. The boys' department contains workshops, in which will be taught tailoring, shoemaking, carpentry, and fitting, and a swimming bath is also provided. The contract, which amounts to 42,000*l.*, has been let to Messrs. W. Lee & Son, of Aston.

MASONIC TEMPLE, GREENOCK.—A new Masonic temple has been erected at Greenock. The new building, which is built of red sandstone from Skelmorlie Quarry, stands at the junction of Argyle and West Stewart-streets. An octagonal tower rises about 60 ft. above West Stewart-street, and is surmounted by a domical roof. A full-sized figure of the patron saint of the lodge is placed at the level of the upper floor in a niche surmounted by a pediment supported on circular attached columns. The upper part of this tower has semi-circular-headed windows, and at the angles are set circular columns supporting an entablature, on which the octagonal roof rests. The principal entrance is from West Stewart-street, which gives access to a staircase leading to all the floors. There is also a side entrance from Argyle-street, forming a private entrance to the lodge room, and giving access to a stair leading up to the large hall on the second floor. The apartments include a lodge-room, 29 ft. by 27 ft.; an assembly or committee-room, candidates' preparation-room, officials' room, and tyler's room. A hall, 45 ft. by 42 ft., occupies the upper floor. Messrs. Boston, Menzies, & Morton were the architects of the new building.

MEMORIAL HALL, EDZELL, FORFAR.—The Inglis Memorial Hall at Edzell was opened on the 22nd ult. The style is Scottish of the sixteenth century. Colonel Inglis has provided in the building a library and reading-room, Council Chamber for the use of the Parish Council, one large hall for public meetings, and one smaller hall which can be used either separately or combined with the main hall. Cloak-rooms, kitchen, sculleries, with store-room, &c., are attached to the halls. The windows of the library are filled with stained glass. There is on this floor the caretaker's house, entrance to music gallery, and staircase to view chamber in tower. The works have been executed by the following contractors: Messrs. J. Ford & Son, Montrose, mason work; Messrs. W. Black & Son, Brechin, joiner work and library fittings and furnishings; Mr. J. Scott, Brechin, slater work; Mr. D. M'Kay, Carnoustie, plumber work; Messrs. Thomson Brothers, Brechin and Edzell, plaster work; Messrs. M'Kenzie & Moncur, Edinburgh, heating; Messrs. Milne, Edinburgh, gas-fittings; Messrs. Alexander, Dundee, hall pendants; Messrs. Wooliscroft, Hanley, wall and floor tiles; Messrs. Salviati, Venice, Messrs. Meikle, Glasgow, and Mr. Fox Maule Boyd, Dundee, have respectively carried out the Venetian enamel mosaics, stained glass and painter work to designs by Mr. C. Ower. Mr. Robert Scott, Arbroath, has acted as clerk of works, and Messrs Wright, Aberdeen, supplied the granite. The architects are Messrs. C. & L. Ower, Dundee.

SOUTHAMPTON MUNICIPAL LODGING HOUSE.—The foundation-stone of the Municipal Lodging House, Southampton, has just been laid by the Mayor. The building, which is to be built on the space cleared by the demolition of the slums in the neighbourhood of Simnel-street, will cost the town over 12,000*l.*, and it gives accommodation for 189 lodgers. The plans were worked out by the Borough Engineer (Mr. W. B. G. Bennett), the Medical Officer of Health (Dr. A. Wellesley Harris), and the drawings have been prepared by Mr. C. J. Hair, the architectural assistant appointed by the Corporation for the purpose. Messrs. Dyer & Sons, of Bevois Hill, are the contractors. The amount of their tender was 10,798*l.*, to which must be added 1,000*l.* for laundry and kitchen fittings, hot and cold water supply, boilers, furniture, &c., and 500*l.* for contingencies, making the total cost 12,298*l.* Mr. Neville Hinves is clerk of the works, Mr. John Dyer is general manager, and Mr. Albert Hann foreman. The building will be four stories high, with a basement at the lower end. It will be built of red bricks with stone facings, and the roofs covered with red tiles, which have been taken from the old buildings demolished on the first of the areas now cleared. The building will have a frontage of 65 ft. 2 in. to Pepper-alley, and a depth of 129 ft. 6 in., extending to within a few feet of the ancient Town Wall, which has been thrown open to view by the removal of many old buildings formerly abutting upon it. It will be rectangular on plan, covering a superficial area of 940 yards, 40 ft. high to the eaves in front and 53 ft. at the back. The narrow roadway of Pepper-alley has been widened to 40 ft., and the building will be put back some 10 ft. farther. The main entrance is from Pepper-alley, and will open into a vestibule, beyond which, on the left side, is an office, situated to give the attendants control of a central corridor, which extends from the entrance to the rear of the building. The manager's quarters are situated in the south-east corner. On the right hand side, and entered from the corridor, is the recreation and reading room, 51 ft. 6 in. long by 25 ft. wide. Part of the other space on the north side is reserved for the artisans' dwellings about to be erected facing Simnel-street, which is also to be widened as in the case of Pepper-alley; an open yard will be left over 50 ft. wide between the two blocks of buildings. Near the recreation room and adjoining the dining room is a provision shop 25 ft. 6 in. long by 7 ft. 3 in. wide, lighted from the yard and Blue Anchor-lane. Beyond the shop is a central hall, in which is situated the stairs to the dormitories above, and also to the basement. On the left of the hall is the dining room, 51 ft. 6 in. long by 25 ft. 6 in. wide. At the end of the dining room, and in communication with the same, is the lodgers' kitchen. A lift communicates with this kitchen, the dining room, and the administrative kitchen in the basement. The lavatory, entered from the central hall, is provided with twenty-three enamelled fire-clay basins. The urinals are eight in number, and seven water-closets are provided, beyond which is the feet washing-room, and three bath-rooms. Hot and cold water supply is provided for this and all offices of the building. A work-room is provided at the end of the corridor. The lodgers' changing and locker room is 20 ft. by 12 ft. At the end of this passage is an external staircase giving access to the administrative portion of the basement below, and continued up to each floor above as an emergency exit. The accommodation in the basement is:—Administration kitchen 20 ft. by 15 ft., with a scullery and washhouse 25 ft. 6 in. by 18 ft. 6 in., with drying chambers, ironing-room, hardware, blanket, and linen stores, staff mess-room, and sleeping-room, with a lodgers' box-room, and laundry, the whole of which are lighted and approached by passages 5 ft. wide. Independent lavatory and water-closets are provided for the staff. The dormitories are designed in three separate pavilions 30 ft. apart, approached from the central staircase by open corridors. The partitions of the cubicles will be composed of coke breeze concrete on iron framing. Each cubicle has a separate window, and also a ventilator under the bed. Each floor contains sixty-three cubicles.

NEW WAREHOUSE, ABERDEEN.—The new stores and bonded warehouses at Virginia-street and Shore-lane, erected in extension of their present premises by the Shoreporters' Society, were recently opened. Mr. R. G. Wilson was architect, and the cost has been 10,000*l.* The masonry work was carried out by Mr. A. Cheyne, carpentry work by Messrs. Hendry & Keith, plumbing work by Mr. A. Campbell, and iron work by Mr. Jno. Grant, all of Aberdeen.

PREMISES, MADDOX-STREET.—Extensive premises are being built on the site of No. 39, at the corner of New Bond-street, by Messrs. Colls & Sons, from the plans and designs of Mr. E. K. Purchase.

PROPOSED WORKMEN'S HOUSES, NEW BOULTHAM, LINCOLN.—On the 22nd ult., Mr. P. Gordon Smith, Architect of the Local Government Board, and Major-General H. D. Crozier, R.E., one of the Inspectors of the Board, held an inquiry at the Guildhall, Lincoln, into the subject matter of an application by the Lincoln Town Council for sanction to borrow 6,500*l.* for the erection of houses at New Boultham under the provisions of Part III. of the Housing of the Working Classes Act, 1890, and 1,994*l.* for works of street improvement. The City Surveyor (Mr. R. A. McBrair) said the plans complied with the by-laws in all particulars but one. There was one small discrepancy, and that was with regard to the passage walls; instead of being built 9 in. throughout, a portion of one side had to be built 9 in. and a portion of the other side 4½ in. Quoting from the result of a visit to 244 streets and courts, he said there were forty-nine empty houses in thirty-seven streets and courts, at a weekly rent of 6s. 6d. and under. Of these forty-nine houses, ten of them were in a dilapidated condition. There were twenty-seven houses at a weekly rental of 3s. 6d. and under. There were seven houses between 3s. 6d. and 4s. 3d. a week, and fifteen houses between 4s. 3d. and 6s. 6d. There were 10,000 houses in Lincoln, and of those at rents of 4s. 3d. a week and under only twenty-four were in really good condition. The erection of houses like those proposed would be likely to tempt the population away from those places.

MAR LODGE, DEESIDE, ABERDEENSHIRE.—The Duke and Duchess of Fife have now entered into residence at Mar Lodge, the new structure which has taken the place of the building burned down three years ago. The new building was illustrated and described in our issue for January 23, 1897. The cost of the Lodge, with the attendant works, enlargement of the garden, &c., was between 15,000*l.* and 20,000*l.* The architect was Mr. A. Marshall Mackenzie, A.R.S.A., Aberdeen. The contractors for the work were as follows:—For the Lodge, mason work, Mr. Edgar Gauld, Aberdeen; carpenter, Messrs. M'Robbie & Milne, Aberdeen; slater, Mr. James Grant, Ballater; plumbers, Messrs. J. Blaikie & Sons, Aberdeen; plasterer and fireproof floors, Messrs. Stuart & Co., London; iron work, Mr. George Bisset, Aberdeen, and Messrs. J. Abernethy & Co., Aberdeen; electric bells and cooking ranges, Messrs. D. M'Hardy & Son, Aberdeen; electric lighting and heating, Messrs. P. C. Middleton & Co., Aberdeen; fibrous plaster work, Messrs. Hay & Lyall, Aberdeen; well fires, Messrs. J. Bannochie & Sons, Aberdeen; painting and glazing, Messrs. G. Donald & Sons, Aberdeen, and Messrs. Maple & Co., London. The approaches have been laid out by Mr. A. G. Cumming, Braemar. For the large stables, erected a short distance eastward of the Lodge, the contractors were:—Mason, Mr. George Hall, Aberdeen; carpenter, Mr. D. Macdonald, Braemar; slater, Mr. James Grant; plasterer, Messrs. Stuart & Co.; painter, Messrs. Donald & Sons; plumber, Messrs. Blaikie & Sons; and electric lighting, Messrs. Middleton & Co.

HALL, PRESBYTERIAN CHURCH, SWALWELL, DURHAM.—The foundation stone has just been laid of a new hall for the Presbyterian church at Swalwell. Messrs. Badenock & Bruce, of Newcastle-on-Tyne, are the architects, and Mr. Humphrey Atkinson, of Blaydon, is contractor. The work comprises a hall seated for 500, having side and end galleries and a large infants' class-room, with gallery. The building will be in brickwork, with selected Birtley brick facing, relieved with moulded red brick strings and cornices from Edwards, Ruabon.

PUBLIC OFFICES, HENGOED, GLAMORGANSHIRE.—The Gelligaer and Rhigos Rural District Council have entered into possession of the new public offices which have been erected by them at Hengoed. The building consists of Board-room, vestibule, offices, &c., and is built externally of Ruabon bricks and terra-cotta, there being a terrace in front, with balustrades and pedestals. The architect is Mr. James Jones, and the builders Messrs. Mainwaring & Davies, Llanbradach.

NEW LUNATIC ASYLUM, CHADWELL HEATH, ESSEX.—The foundation-stone of an asylum for the County Borough of West Ham (population about 260,000) was laid by the Mayor of West Ham, Alderman Ivey, at Chadwell Heath, on the 3rd inst. The buildings, which cover more than 10 acres, with 90 acres of surrounding land, will accommodate 800 patients and staff in various blocks. There will be the following accommodation: sick and infirm, 88 males and 112 females; acute, 70 males, 90 females; epileptic, 80 males, 98 females; and chronic, 112 males, 150 females. The Administration block is placed centrally, the front portion being occupied on the ground floor by the chief medical officer's, steward's, and clerk's offices, board-room, dispensary, library, &c., the museum and laboratories and assistant medical officer's rooms being on the first floor. At the back are the waiting-room, matron's apartments, recreation-hall, rooms for male and female attendants, kitchen, bakery, general stores, laundry, boiler, engine-house, and workshops, &c. The main buildings will be two stories in height. The foundations have been put in by Messrs. Gregar & Son, of Stratford, at a cost of about 16,000*l.* Messrs. Leslie & Co., of Kensington, have the contract for the superstructure—210,000*l.* In addition to the main buildings there will be a medical officer's residence; also steward's, chief attendant's, and married attendants' houses, isolation block, mortuary, lodges, and a chapel to accommodate 530 adults. The total cost when finished will be about 300,000*l.* The architect is Mr. Lewis Angell, the Borough Engineer of West Ham.

SANITARY AND ENGINEERING NEWS.

WATER SUPPLY, KIRKBY-IN-ASHFIELD.—Major-General H. Darley Crozier, R.E., an Inspector of the Local Government Board, conducted an inquiry on the 19th ult. in the Kirkby-in-Ashfield Board Schools respecting an application from the Kirkby Urban District Council for sanction to borrow 9,200*l.* for purposes of works of water supply. The loan includes the following items:—For raising main and service main, 1,280*l.* 13s.; reservoir, 1,200*l.*; sinking well (on No Man's Hill), lining, &c., 1,500*l.*; pumping station, including engine-room, boiler-house, &c., 1,000*l.*; duplicate pumping machinery, 2,000*l.*; and compensation to the Sutton Council and contingencies, 1,000*l.* The well is to be sunk to a depth of 90 ft. The engineer is Mr. W. H. Radford.

SEWERAGE OF BALSALL HEATH, BIRMINGHAM.—Mr. W. O. E. Meade-King, M.Inst.C.E., Inspector of the Local Government Board, held an inquiry at the Council House on the 27th ult. with regard to an application of the City Council for sanction to borrow 25,000*l.* for the erection of public baths at Small Heath; and 5,000*l.* for works of sewerage. The Lord Mayor (Mr. C. G. Beale), Mr. Hiley (Town Clerk's office), and Mr. J. Price (City Surveyor) were among those present. Mr. Hiley explained that with regard to the first application of 25,000*l.* for baths at Small Heath, the Corporation desired to withdraw that. It had been proved to the satisfaction of the Baths and Parks Committee that the estimates would want amending. They were prepared some twelve months ago, and prices had since risen. The estimates would be amended, and a fresh application made to the Local Government Board in due course. With regard to the present application, it was for 5,000*l.*, to cover the cost of laying a sewer beginning in Edgbaston-road.

WATERWORKS, NEAR HELMSLEY, YORKSHIRE.—New waterworks to supply the villages of Nunnington, Stonegrave, East Newton, and Laysthorpe, and the surrounding hamlets, were opened at Gilling on the 26th ult. Messrs. Fairbank & Son, of York, were selected as the engineers for the work, and they have had associated with them as contractors, Mr. Thomas Bell, of Market Weighton, and Mr. William Bell, with Mr. James Sharpe as clerk of works.

MARINE DRIVE, SCARBOROUGH.—The Scarborough Corporation some time ago submitted to the Scarborough Harbour Commissioners plans prepared by their engineer (Mr. H. W. Smith), for

the proposed approach road along the seaside to the new Marine Drive round the base of the Castle Hill. The plan shows a road 80 ft. wide. It provides for the erection of a few workshops for traders allied with the fishing industry, to be erected on piles. The Secretary of the Harbour Commissioners states, in reply, that the committee of the Commissioners recognise the public character of the work, and that, subject to certain conditions, they will recommend the Commissioners to assent to the acquisition by the Corporation of the north-east corners of the harbour, and of the acquiring of right of way over the approaches thereto to the extent of 20 ft. less than is shown in the plan, subject to certain provisions. They cannot possibly entertain the proposal for the workshops to be built on piles. The committee, after dealing exhaustively with the proposed concessions, state their feeling that these will undoubtedly involve a serious restriction of present facilities and accommodation for the trade carried on by those who use the harbour, and as compensation they propose that the Corporation shall allow the Commissioners to acquire so much of the frontage of the foreshore as may be necessary to enable them to widen the West Pier by 70 ft. for about two-thirds its full length, and to bear the cost, or, in the alternative, to contribute the sum of 5,000*l.* towards the cost. The widening of the West Pier would involve only a very slight encroachment on the foreshore, beyond the limit of deviation shown in a plan referred to in the Harbour Act of 1843. The matter will be considered by the Streets and Buildings Committee of the Corporation.—*Sheffield Telegraph.*

Water Supply, Middleton Tyas.—The Richmond Rural District Council, Yorkshire, have engaged Mr. Harry W. Taylor, A.M.Inst.C.E., of Newcastle and Birmingham, to report upon the best means of supplying the village of Middleton Tyas with water.

Ventilation of Sewers.—Dr. T. Orme Dudfield, in his monthly report to the Vestry of Kensington, on the sanitary condition of Kensington, remarks, that "the hot weather has brought in its train the customary flood of complaints of offensive smells in streets arising from untrapped gullies and sewer ventilating openings. The Surveyor was requested to 'report to the committee as to any practicable action which might be taken by the Vestry to give effect in this parish to the third recommendation (printed below) of the Conference' of the Engineer to the County Council and the Surveyors to the Sanitary Authorities at which this question was considered. The Surveyor's report to the committee is to the effect set out in paragraph 22b of his report of October 18, 1897, viz. :—'That the Local Sanitary Authority shall be empowered by statute to carry up any building sewer ventilating pipes. To meet possible and probable objections on the part of property-owners, statutory power, above suggested, might be made subject to the right of appeal to the Local Government Board.' The Surveyor, it may be mentioned, has discretionary power to erect ventilating pipes where necessary for the remedy of nuisance from effluvia from surface gratings, and I believe some 200 (or less than one per ten acres on an average) have been erected, a number which compares poorly with the 300 already erected in the City of London—in an area little more than a fourth that of Kensington. I should be glad to see these pipes multiplied largely. It is stated that to only one-half of the applications made for consent to their erection is consent given : but if the applications were sufficiently numerous, and this average of consents sustained, we might in the course of a few years be in a considerably better condition in respect to sewer ventilation than at present. It will be noted that the Surveyor was not requested to report in respect of the recommendation in the first resolution of the Conference, with which the Sanitary Committee concur, and which contemplates a large increase in the number of surface ventilating openings as a remedy for offensive effluvia from sewers. This recommendation should certainly receive attention at the hands of the Sanitary Authorities of the metropolis. To the County Council a letter has been written by the Vestry Clerk, from which I extract the following passages :—'Adverting to your letter of April 15 last (forwarding the report of the Conference) . . . . I am directed to state for the information of the Council that the Vestry concur in the views expressed in the first and third resolutions arrived at by the Conference as follows :—1. That the closing of sewer ventilators, in response to complaints, increases the general evil, the diminution of which is to be attained by the multiplication of the ventilators at regular frequent intervals. 3. That pipe ventilators up buildings, or otherwise, where possible, should always be adopted in addition to surface ventilation. . . . . The Vestry note the statement of the Council's Engineer, in his report to the Main Drainage Committee, 'that the general result of the Conference has confirmed the action of the committee and the Council in recent years, and that the remedy for sewer emanations is to be looked for from the maintenance of more frequent ventilating openings, both at the street level and by means of pipes carried up houses and other buildings.' In these views the Vestry concur, and I am directed to request the Council to adopt the remedy suggested, in respect of the Counter's Creek sewer in this parish, numerous complaints having been received from parishioners and the Sanitary Inspectors of offensive smells from sewer ventilators in the line of the said sewer."

Sewage Scheme, Exmouth.—Mr. H. H. Law, Local Government Board Inspector, held an inquiry at Exmouth on the 27th ult., relative to the application of the Urban District Council to borrow 34,500*l.* for new sewage works. The sewage scheme had been prepared by Mr. Mansergh, and Mr. Strahan, his assistant, explained that the essential feature of the plan was to have a high level sewer, taking in Withycombe, and providing for a free discharge, however great the rainfall. It was proposed to have a pumping station to take the sewage from the Exeter-road low level area to the high level sewer, for the purpose of discharge. The sewage would be discharged at a point 160 yards beyond the present outfall, and provision had been made to meet a probable increase of the population to 20,000. The high level sewer would be capable of discharging 8½ million gallons of sewage every twenty-four hours. The pumping station had been so arranged that no nuisance could arise from it. Arrangements had been made to utilise all existing sewers.

A Leicester Water Scheme.—The Leicester Corporation have determined to promote a Bill in Parliament next Session for a water scheme which will involve an outlay of 3,000,000*l.* It is proposed to combine with the authorities of Derby, Belper, Nottingham, and probably Sheffield, to secure the whole of the waters of the Upper Derwent, with the vast area of collecting grounds, and convey the water to Leicester, a distance of sixty-six miles. The project, if carried through, will secure a *minimum* supply of fourteen million gallons of water daily.

The Croydon Water Supply.—On the 1st inst., at the Croydon Municipal Buildings, Mr. Willcocks and Dr. Wharton, Local Government Board Inspectors, resumed their inquiry into the application of the Croydon Corporation for sanction to borrow the sum of 32,000*l.* for the construction of additional waterworks at Waddon. Mr. Baldwin Latham, C.E., of Croydon and Westminster, giving evidence against the case put forward by the Corporation, said the capital value of the millowners' interest in the Wandle was 176,000*l.* He gave that as his opinion before the Royal Commission on Metropolitan Water Supply in 1878, and he thought the water power was of the same value now. He was certainly of opinion that the abstraction of 1½ million gallons daily from the well would affect the Waddon streams. The inquiry was again adjourned.

Shipley Main Drainage.—At a meeting of the Shipley Urban District Council, held on the 28th ult., contract plans of their proposed bacterial filter beds, together with an estimate of cost, were submitted by Mr. Malcolm Paterson, M.Inst.C.E. The beds will be constructed of brick in cement, and will cover an area of 6,133 square yards, there being four each of the rough and fine filters. The total estimated cost, exclusive of contingencies, is 5,400*l.* The volume of sewage to be treated will be 800,000 gallons daily, and the treatment will be on the system advocated by Mr. Dibdin, who has settled the capacity and arrangement of the beds. The plans were adopted without modification, and it was resolved to advertise for contracts. It is not proposed to treat trade refuse, and the sewage will pass through grit depositing tanks before flowing on to the beds.

STAINED GLASS AND DECORATION.

Windows, St. Paul's Cathedral.—The Duke of Westminster has presented two stained-glass windows to St. Paul's Cathedral. They are designed by Sir W. B. Richmond. One, placed in the south transept, represents the kings of the Saxon Heptarchy. In the north transept the other window is not quite complete.

Reredos, St. John the Baptist Church, Kingston Vale.—The reredos recently placed in the Church of St. John the Baptist, Kingston Vale, to the memory of the Duchess of Teck, was dedicated on the 30th ult. The reredos has been designed by Mr. G. F. Bodley, A.R.A., and worked in white alabaster, somewhat sparsely gilded. The central figure is that of the Saviour, with hands uplifted in blessing. The four windows of the apse have been slightly enlarged, and refilled with stained glass representing St. George, St. David, St. Andrew, and St. Patrick. In addition to these gifts, the Duke and Duchess of York, the Prince and Princess Adolphus of Teck, and Prince Francis and Prince Alexander of Teck have furnished the altar with a gilt Gothic cross and candlesticks.

Paris Exhibition of 1900.—Applications for space should be sent to the Secretary of the Royal Commission, St. Stephen's House, Westminster, not later than the 20th inst.

Public Park, &c., Wallasey, Cheshire.—Colonel J. T. Marsh, R.E., an inspector under the Local Government Board, held an inquiry on the 20th ult., at the Public Offices, Egremont, into an application by Wallasey Urban District Council for powers to borrow 14,130*l.* for public parks, pleasure grounds, and other purposes. Evidence in support of the various applications was given by Mr. A. T. Wright, the Surveyor to the Board, and others.

FOREIGN.

France.—M. Bobin, Architect of Civil buildings, and M. Mariaud, Architect to the Ministry of Justice and Inspector of Works at the rebuilding of the Palais Royal, the Museum of the Louvre, and the Tuileries, have received the decoration of the Legion of Honour on the occasion of the National Fête of July 14.——The Jury of the Ecole des Beaux Arts entrusted with the decision of the competition of the First Class in Architecture, has awarded first-class medals to M. Jaumin, a pupil of MM. Daumet & Esquié, and M. Albresque, a pupil of MM. Guadet & Paulin. The subject was a provincial veterinary college.——It is proposed to commission a sculptor, who has not yet been chosen, to execute a statue of Michelet, which will be placed in the Panthéon near the mural paintings of Puvis de Chavannes.——M. Denys Pueeh has just completed a design for a monument to former pupils of the Ecole Centrale des Arts et Manufactures who have died for science or for their country.——There has just been opened at St. Maurice, near Paris, a large group of school buildings erected by the architect, M. Guyon.——At the request of the Commission of Old Paris the public is now permitted to visit the Tower of Jean Sans Peur in the Rue Etienne Marcel.——M. Osiris, well-known for his liberality, has given for the Exposition of 1900 a prize of 100,000 francs which will be awarded under the auspices of a syndicate of the Parisian Press to the author or authors of the most meritorious work either from the point of view of humanity or from an artistic or industrial point of view.——It appears that M. Falquière who, as the *Builder* has already announced, is entrusted with the execution of the statue of Balzac, proposes to represent him seated, and clothed with the monk's habit which the celebrated novelist was accustomed to wear in his study.——Very shortly there will be constructed a line of railway to join the town of Charolles (Saône-et-Loire) with the main line from Paray-le-Monial to Lozanne.——It is proposed to give to the sculptor Deloye a commission for the monument which the town of Dijon intends to raise to the memory of Garibaldi.——There has just been discovered at Joeuf (Meurthe-et-Moselle) a large Merovingian cemetery, as well as some beautiful fragments of ornate architecture and rich decoration, which appear to have formed part of a Gallo-Roman temple.——It is proposed to commission from the engraver Roty a medal commemorative of the erection of the new prisons of Fresnes-les-Rungis.——The statue of the Positivist philosopher Charles Fourrier, which was exhibited in the Salon this year, has been set up on the Boulevard de Clichy, at the corner of the Rue Caulincourt. This monument is the work of M. Derré.——The construction of the new railway line from St. Sever to Dax will be commenced very shortly.——It is proposed to construct a special line of railway from Paris to Chartres, in order to facilitate the entry into Paris of the Chemin de Fer de l'Etat, which at present is obliged to make use of a line to the Mont Parnasse station.——M. Goutier, architect, of Vitré, has gained the first premium in the competition instituted by the town of Fougères for the erection of a municipal abattoir. M. Prioul, jun., of Saint Servan, obtained the second premium, and M. Pinel, of Fougères, the third premium.——It appears that the ramparts of Aigues-Mortes, which up to the present have been in the hands of the War Department, are about to be handed over to the Department of Public Education and Fine Art, which will be entrusted with their preservation.——The death is announced of M. J. Parguy, of Paris, architect, at the age of twenty-eight.

MISCELLANEOUS.

Public Improvements, Birkdale, Lancashire.—At the Birkdale Town Hall recently, Colonel C. H. Luard, R.E., held an inquiry respecting the Birkdale Urban District Council's application to the Local Government Board for sanction to borrow 7,454*l.* for works of improvement in the township, made up of the following items :—4,250*l.* for works of street improvement (including main roads), 630*l.* for works of sewerage, 575*l.* for purposes of public walks and pleasure grounds, 500*l.* for the erection of a fire-station, and 1,500*l.* for laying gas mains. Among those present at the inquiry were Mr. C. F. Hodgkinson, surveyor, and Mr. Schofield, County Surveyor.

The Strand Improvement.—At the Middlesex Guildhall, Westminster, on the 26th ult., Mr. Troutbeck and a special jury heard the case of "Roberts *v.* The London County Council," a claim for about 33,000*l.* as compensation in respect of the freehold interest in the premises Nos. 268, 270, and 271, Strand, which have been acquired by the London County Council for the purposes of the Strand improvement. The premises, Nos. 270 and 271 are in the occupation of Mr. Nutt, at 650*l.* a year, on lease for twenty-one years from 1888 ; while No. 268 is at present vacant, the front being let as an advertising station at 130*l.* a year. It appeared that Mr. Nutt had to expend about 1,000*l.* on the premises as one of the conditions of the lease, and it was submitted on behalf of the claimant that the present rental value of the premises 270 and 271, Strand, is 900*l.* a year. Sir J. Whittaker Ellis

valued the property Nos. 270 and 271 for the term of the lease at 6,500*l.*, and in reversion (deferred twelve years on the 3 per cent. table) at 15,700*l.*; and No. 268 at 310*l.* a year (on the 5 per cent. table), 7,750*l.*; a total of 29,950*l.*, to which he added 10 per cent. for compulsory sale, making 32,945*l.*, to which one year's rent of No. 268 had to be added as a *solatium* for the interference with the letting of the property subsequent to the date of the notice to treat. On behalf of the London County Council the rental in the lease of Nos. 270-271 was stated to be full, and the reversionary rental as not more than 700*l.*, while the rental of No. 268 was estimated at 200*l.* From this there was a deduction for repairs, and the total valuations averaged 21,600*l.* The jury awarded the claimant the sum of 25,850*l.*, *plus* one year's rent of No. 268, making a total of 26,100*l.*—*Times.*

GLASGOW WATER-PIPE CONTRACT.—AMERICAN COMPETITION.—On the 25th ult. the Water Sub-Committee of Glasgow Corporation considered tenders for the supply of 1,000 tons of cast-iron pipes. Offers were sent in by four Glasgow and two Philadelphia firms, and it was stated that the tenders by the American firms were for 12-ft. lengths, instead of 9-ft., as specified. The Committee, in view of the great difference in the offers of the local and the American firms, agreed to re-advertise for further offers, alternately for 9 ft. and 12 ft. lengths. The two lowest were from America, viz.: —4,282*l.* and 4,965*l.* respectively. The local firms' tenders in their order were 5,641*l.*, 5,734*l.*, 5,910*l.*, and 5,960*l.*

SIR JOHN VANBRUGH'S HOUSE, WHITEHALL-YARD.—In order to clear the site for the new War Office (to be erected after Mr. W. Young's designs) will shortly be demolished the premises lately occupied by the Royal United Service Institution. The house has been identified as that which Sir John Vanbrugh built for himself out of the ruins of Whitehall Palace burnt by fire in 1697, and wherein he died on March 26, 1726—the "goose-pie" of Swift's satirical lines. Some of the fire-places, good examples of their time, were taken to the Institution's new buildings, in Whitehall, on the site of Dover House stables. It stands between the old Palace Confectionary and the site of Fife House, and was since known as Stuart (or Rothesay) House, having been the residence of Sir Charles Stuart, our Ambassador to the French Court, a grandson of John, third Earl of Bute, who was raised to the peerage as Baron Stuart de Rothesay in 1828, and died, *s.p.* in 1845. The house has remained unoccupied since it was vacated in February, 1895, by the Institution established in 1831, as the Naval and Military Library and Museum, and incorporated under its present name in 1860. For Stuart House the members paid 205*l.* rent, with 165*l.* rates and taxes.

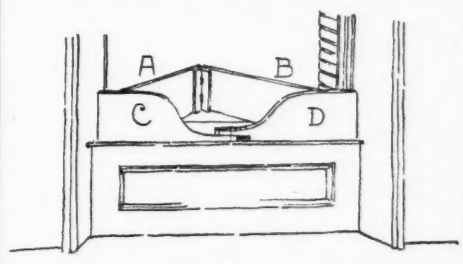
LAND TRANSFER ACTS, 1875 AND 1897.—An Order in Council declares that with respect to the county of London, the registration of land is to be compulsory on sales in the several portions of the county, and on and after the days following, namely:—Hampstead, St. Pancras, St. Marylebone, and St. George, Hanover-square, parishes, November 1, 1898. Shoreditch, Bethnal Green, Mile-end Old Town, Wapping, St. George-in-the-East, Shadwell, Ratcliffe, Limehouse, Bow, Bromley, and Poplar parishes, March 1, 1899. The remainder of the county (not including the City of London) north of the central line of the Thames, except North Woolwich, October 1, 1899. The remainder of the county, not including the City of London, January 1, 1900; and the City of London, July 1, 1900. The Act of last session enabled the Privy Council to choose one county in England wherein the registration of title to land on sale should be made compulsory. As our readers will remember, cogent reasons have been advanced by various local bodies against the choice of the so-called county of London for making the experiment; but, as will be seen, the authorities ordain otherwise, and in four of the largest London parishes where conveyances of land for building and other purposes are constantly being completed the new legislation will soon come into operation. The registry is to be established, in the first instance, at the present Land Registry Offices, Lincoln's Inn-fields.

BIDSTON COURT, CHESHIRE.—This property was withdrawn from sale at auction last month, after a bid of 25,000*l.* The house was built for Mr. R. W. Hudson, in the old half-timbered style, after the designs of Messrs. Grayson & Ould. The house cost, it is stated, more than 80,000*l.*

BROOKS'S CLUB.—A copy of Rowlandson's "Exhausted Gamblers" was recently sold at Sotheby's for twelve guineas. The drawing is believed to give an authentic representation of the old play-room at Brooks's club-house, St. James's-street, designed by Holland, and opened in 1778.

NEWCASTLE SOCIETY OF ANTIQUARIES.—The monthly meeting of the Society of Antiquaries of Newcastle was held in the Castle, Mr. Cadwalladar J. Bates presiding. Mr. Maberley Phillips, F.S.A., exhibited an old Exchequer tally, which he explained was an antiquated form of receipt given by the Government for money deposited. It was evidently a branch of a tree, roughly squared, 22 in. long. Various notches are cut in the stick, representing money deposited at the Tally Office. Mr. Philip E. Mather wrote saying that he heard a Newcastle tradesman had purchased the halls at the Friarage, Newcastle, of two bodies of local Freemen, with the assumed object of pulling them down and building warehouses on the sites. He also wished to draw attention to the fact that a sad partial demolition of one of the older buildings surrounding Friar's Green was lately effected in the shape of large gaps made in the main west wall. Mr. Bosanquet, who had been for five weeks—the last three in conjunction with Mr. Dickie—exploring the Roman camp at Borcovicus, exhibited plans of the structure, and gave a statement as to the work which had been done and the masonry and relics discovered. The station was about four and a half acres in extent. One of the foundations uncovered was of a building which had not occurred in any other camp. It was a block immediately west of the prætorium. In other camps one street invariably ran right through the station, and the other was interrupted by the prætorium, but in this instance two buildings occurred. Mr. Bosanquet then described the relics found in and near the camp, one of the most important being a coin in excellent state of preservation.—*Newcastle Journal.*

SAFETY WINDOW-CLEANING CHAIR.—A model of this has been submitted to us; it is a contrivance invented and patented by Mr. H. Gold (London) for providing a kind of protecting fence for any one sitting on the sill of a window to clean the outside. The accompanying sketch plan will sufficiently explain the principle. A and B are boards about 14 in. deep hinged together and attached by strong hinges to C D, boards of the same depth but cut down at the centre into narrow tailpieces, to allow room for the persons sitting on the sill. C and D project at each end so as to have a bearing against the inside of the window frame, as well as against



the wooden sill and beading, and the whole is further secured by a screw through one of the holes provided in the tailpiece of D, clamping it down on to C. We have tried it in a window and it is perfectly tight and secure. For a considerable difference in the width of windows a different size would be necessary in the chair; but to a certain extent it accommodates itself to the size of the window, the only difference being in the angle formed by A and B. The tendency of the day is towards reversible sashes, but it will be long before these are in general use, and this "chair" ought to be very useful for the safe cleaning of ordinary sash windows. When not in use it hinges up flat, and can easily be stowed away.

THE ELECTRIC LIGHT AT DOUGLAS.—Professor Fleming has, at the request of the Douglas Corporation, presented a report with regard to the lighting of Douglas by electricity. His report is in favour of such lighting by the Corporation.

ROYAL BOTANIC SOCIETY.—At the annual meeting to be held in the Gardens on the 10th inst., at one p.m., Mr. J. S. Rubinstein will recommend the erection of a large floral hall to serve as a Winter Garden and wherein exhibitions, flower shows, receptions, and musical promenades can be held in all seasons and in any weather, architects being invited to send in plans in competition.

NATIONAL ASSOCIATION OF MASTER BUILDERS.—Mr. T. Stephenson Jones, of Liverpool, presided at the half-yearly meeting of the National Association of Master Builders, which has just been held at Leicester. There was a large attendance of delegates from the chief centres of population in the kingdom. The proceedings opened with a meeting of the Council, when routine and other business was transacted. This was followed by a general meeting of the delegates, when a prolific subject of discussion was a scheme for the federation of the district associations. This was eventually adopted, and Bradford was selected as the next place of meeting. A banquet followed, when Mr. Hardington, the President of the Leicester Association, presided, and there were also present about 130 of the leading master builders of the kingdom. The following day the members took part in an excursion to the principal features of interest in the county, including the Forest and the Leicester Waterworks.

LAUNDRY EXHIBITION.—The sixth annual laundry exhibition will be held at the Royal Agricultural Hall, Islington, from Monday, August 22, to Saturday, September 3.

DESTRUCTIVE FIRE AT NORWICH.—The largest fire that has been known in the Eastern Counties for many years broke out on the 1st inst. at Norwich, and before it was subdued a large block of buildings, containing a number of shops of importance and the Public Library, were practically destroyed. The outbreak was discovered about six o'clock in the morning on premises occupied by the Hurn Rope Manufacturing Company, and almost immediately the flames spread to the adjoining premises, and finally reached the Public Library. The library, which is the largest in the county, contained at the time upwards of 60,000 books, and the flames spread so rapidly that but few were saved. The seat of the fire was in a very awkward angle of the city, and though some seventy firemen and policemen were soon on the spot five hours passed before the flames were got under control.

THE NEW KEEPER OF THE ROYAL ACADEMY.—Mr. Ernest Crofts, R.A., has been appointed Keeper of the Royal Academy in the place of the late Mr. P. H. Calderon, R.A.

LEGAL.

BRADFORD ANCIENT LIGHTS CASE.

IN the Chancery Division of the High Court of Justice on the 2nd inst. Mr. Justice Stirling delivered judgment in the case of the Bentley Breweries Company, Limited, *v.* Dobson. This was an action brought by the plaintiffs to restrain the defendant, a Bradford architect and surveyor, from interfering with the access of light coming to the plaintiffs' premises called the "Cumberland Arms," Leeds-road, Bradford, by the erection of a block of dwelling-houses and shops. In the preliminary stages of the action the Court appointed Mr. Banister Fletcher to inspect the premises, with a view to reporting what steps should be taken to remedy the alleged obstruction, and it was part of the plaintiffs' case that they should not be called upon to adopt that report.

Mr. C. E. Jenkins, Q.C., and Mr. Dibden appeared as counsel for the plaintiffs; and Mr. W. H. Upjohn, and Mr. Ashton Cross for the defendant.

His lordship, in giving judgment, said he had heard all the evidence as to whether the buildings as they now stood, which conformed to Mr. Fletcher's report, did or did not obstruct the access of light to the two rooms in question, and the testimony was to a certain degree in conflict; but he believed it preponderated in favour of the plaintiffs' view. Consequently, his lordship was unable to adopt the referee's report. As to granting a mandatory injunction to pull down the buildings complained of, this was a matter for the exercise of judicial discretion. His lordship believed that the defendant had been honestly misled both by the writ and the notice of motion, the terms of which only referred to one house and not to the block of houses erected by the defendant, and it seemed to him (his lordship) that the defendant had reasonable ground for coming to the conclusion that the relief sought by the plaintiffs was only in respect of that particular house. The defendant had proceeded with his building perfectly openly, and looking at the whole of the circumstances his lordship thought that there had not been any such extreme injury done to the plaintiffs by such interference with the light as to justify the making of a mandatory injunction. The result was that the plaintiffs had established an injury to their lights in respect to which they had their legal remedy in damages. What those damages should be his lordship had no means of assessing, and he directed an inquiry for that purpose. Judgment, therefore, would be for the plaintiffs, with costs, the costs of the inquiry being reserved.

MEETINGS.

FRIDAY, AUGUST 5.

Incorporated Association of Municipal and County Engineers.—Meeting at Cork.

SATURDAY, AUGUST 6.

Incorporated Association of Municipal and County Engineers.—Meeting at Cork (concluded).

MONDAY, AUGUST 8, TO SATURDAY, AUGUST 13.

The Architectural Association.—Annual Excursion to Leamington.

RECENT PATENTS:

ABSTRACTS OF ACCEPTED SPECIFICATIONS.

Open to opposition until September 13.

[1897.] 9,203.—CLOSETS, CISTERNS, AND WATER SUPPLY: *P. J. Davies.*—Ball valve or inlet: the cistern inlet valve (especially of the "Croydon" class) is made in the shape of an elastic plug, to answer the purpose of a washer, and to spread or expand laterally, and thus steady itself from vibration. Cistern: space is economised by employing two diaphragms or partitions arranged to form the syphon above the weeping-box and top division of the waste preventer. Outlet valve: the valve is fixed between lugs on or above the top part of the division directly above the afterflush portion of the cistern, the valve and syphon working above a—preferably—stand-up weeping pipe. Joints: these are made by casting with lead or lead alloys, on to the waste-preventer's outlet, the inlet or outlet of the basins, a kind of ring or flange with lugs for receiving bolts, &c. Silencing shield: to silence the inlet rush of water a shield is fixed on the cistern's end to guide the water in an oblique stream.

15,777.—KILNS FOR BURNING EARTHENWARE, &C.: *J. & C. Lengshols.*—The kiln is damped by means of opening valves, set in openings made in the vaulted roof, which admit the heated air into closed iron cowls open only towards the layer of earth and placed over the roof-openings and the valves therein.

16,027.—BRICKS: *A. Grayson.*—To obviate the insertion of plugs a brick is devised which consists of an iron frame, of the size of an ordinary stock brick, cast in one piece, thicker at the bottom than at the top, to form a downward dovetail; in the centre of the brick's face is inserted a

wooden plug fashioned to form a forward dovetail, and secured from fire by cement filled in to the spaces around.

16,899.—Combined Sink Standard and Waste: *F. Cullis, W. Beaven, & A. E. Beaven.*—The standard contains within itself a syphon trap fitted with a socket for the outlet; within it is moulded or attached the trap or waste pipe, whose mouth may be enlarged by a hopper-shaped extension or receiver; provision is made for receiving the overflow and for cramps for fixing the standard.

17,344.—Curbs or Curb-fenders for Hearths, Fireplaces, &c.: *E. A. J. Hooper.*—The inventor's object is to make these adjustable, so that the distance between the returned ends can be varied in width; he mounts the ends upon the inside end parts of foundation fronts, and clamps them to the front members, by screws, nuts, or bolts; twisting of the parts is prevented by ribs on the one part that engage with slots on the other part.

17,730.—Lock Hinge: *J. L. Fiske & G. L. Reenstierna.*—The hinge is intended to retain an open door, gate, window, &c., in position. It comprises a casting secured to the door-post or window casing, and retaining therein a vertical pin; on the pin are mounted two discs having teeth on their faces; a rod or spindle, rotatably mounted in the door-frame, has a projecting end with a cam to enter between the discs; when the door is opened the teeth of the discs will ride over one another, and engage, when the door is released, in any position. A partial turning of the spindle and cam separates the discs, disengages the teeth, and so allows the door to be closed.

18,046.—Kilns for Burning Lime, &c.: *J. Foster.*—Over the usual open vertical chamber is placed a dome with a neck leading to a second chamber of an inverted cone shape, annular shoots are made through the dome for fuel-feeding purposes, across the top of the second chamber is constructed an arched wall or mass of masonry pierced with a series of vertical cylindrical chambers, with a central feed shoot or passage—it is claimed that a saving of fuel is effected, and destruction to the interior of the walls is reduced to a minimum, by feeding the fuel directly to the kiln's centre, and that concurrent advantages are obtained by the use of the series of vertical chambers whereby the material to be burned is fed evenly into the kiln.

19,513.—Automatic Flushing Cisterns: *W. R. & J. J. Rawlings.*—To secure a positive action of the syphon the down pipe of the trap is arranged so that the water impinges across the bore of the pipe and cuts off the air. This is effected by forming an offset in the outlet pipe at the lowest end of the trap, to which a syphon is attached. The trap is placed, preferably, within, or at the side of, the cistern.

19,639.—Sheet-Roofing: *N. Sherson, H. Crisp, & A. Moore.*—The roll-cap and roofing sheet are made in one, and lateral clips are provided at intervals between the turned-up side edges of the sheets, which latter have notches for the clips. Each sheet has one of its side edges turned over; the other edge is formed into a complete roll-cap; the angle clips are Z-shaped in cross-section.

21,45[illegible].—Cement, Artificial Stone, Preservative Composition, Concrete, &c.: *C. Heap & T. Oddy.*—The composition comprises, as its base, chloride of magnesium, silicate of soda, water, lime, and silica; with them are incorporated various solid (named) substances.

25,734.—Moulding or Forming Bricks, Tiles, Pipes, &c.: *E. S. Clarke.*—The dies, instead of being formed of moleskin, are made of metallic sections fitted together with porous material between them; the water jackets surround, or are placed in, the dies, whereby the porous material absorbs and delivers water to the die's surface, forming a lubricant for the stream of clay.

30,809.—Combined Foot-rules and Set-Squares: *H. S. Philippe.*—An additional piece is hinged on to the inner end of one of the rule-arms, and folds up with the rule; on the other arm's end is a pin, and along the additional piece (or base) are notches to fit on to the pin; the notches are so arranged that when the pin fits into the furthest one the two rule-arms are at a right angle, the intervening notches being arranged at such intervals as shall measure, say, five degrees at a time. As a further improvement, the inventor inserts in the two arms a thermometer, a spirit-level, a compass and sundial, and a slide—the last-named consists of two pieces of metal, having, respectively, thirty and fifty equal divisions for representing any assumed proportions.

[1898] 4,273.—Curing Smoky Chimneys: *T. Sheppard.*—Above the stove is fixed a plate which supports a cone, from 2 to 3 ft. high, that stands up within the flue and thus forms a hot air chamber around itself and above the plate, and promotes an updraught.

9,108.—Plate Walls, Ceilings, Partitions, &c.: *The Fireproof Plate Wall Co. & C. H. Sidebotham.*—The wall or ceiling is built up of slabs or plates (of gypsum, plaster of Paris, cement, &c.), each of which has two or more straight, or one or more diagonal, through-going passages or channels, together with a series of air channels; the faces of the slabs are tongued and grooved; the structure is bound together by running cement into the passages and fixing stays therein.

10,085.—Drains and Sewers, and Pipe and Channel Bends for the Same: *E. A. Green.*—The bends for the pipe or channel are formed of three different axial lengths, and with the axial direction of the socket end at three different angles, to wit, 30, 60, and 90 degrees to the axial direction of the spigot end, or, more accurately, at angles of 60, 30 and 0 degrees with the plane of the spigot end. In every case two incisions are made around the outside or inside of the spigot end along the lines or planes which intersect at a point distant from the centre of the spigot end, about the outside diameter of the pipe or channel; thus, whilst there are, say, only three different angles—namely, 30, 60, and 90 degrees—in the stocked bends, nine different angles of bend in the line of sewers, namely, 10, 20, 30—90 degrees are provided for.

10,672.—Imbedded Metal Supports for Floors, Ceilings, Roofs, Stairs, Bridges, &c.: *J. Mueller.*—In the construction of these with concrete filling the inventor uses an imbedded iron supporting framework that consists of zig-zag iron bands placed on edge and clamped together; the bands or bars are placed between parallel bearing bars, and the iron skeleton framing thus formed has concrete stamped into its spaces and laid over a boarding attached to its under side.

11,489.—Beading or Moulding Plane: *A. Novitzki.*—The plane has its face shaped with a semi-circular recess or groove, and has a similar projection, of different length and width, on either side; by raising or lowering a stop on the plane's side and fixing its screws the depth of beading is determined; it is claimed that with this instrument six distinct beads or mouldings can be cut.

12,205.—Cramp for Use in Forming Soldered Joints: *M. Watson.*—The tool has two or three arms, of segmental or other form, with jaws for gripping the work, and slots and screws for adjustment of position.

New Applications.

July 18—23.

15,664, G. Herbert, Casements. 15,665, J. Shaw, Unions for Joining or Coupling Pipes. 15,669, Parker, Winder, & Achurch, Drain Ventilator. 15,670, Tonks & Burns, Window-sash Fasteners. 15,672, J. Ruscoe, Stop Tap and Ferrule Tap or Valve, Combined. 15,675, J. C. Braun, Boxes for Moulding Lead Pipes, &c., by Hydraulic Pressure. 16,677, T. D. Pearson, Galvanised and Corrugated Iron Sheds. 15,678, Wheeldon & Spring, Wood Screws. 15,687, Holland & Addicott, Wrought Metal Mouldings for Fenders, Fender-curbs, and Ash-pans. 15,714, W. H. Martin, Fluid Pressure Reducing Valves. 15,721, E. G. Scott, Distillation of Rosin. 15,723, R. Zeiler, Smoke-consuming Stoves and Furnaces. 15,729, C. Kunzelmann, Locking Devices for Doors, &c. 15,732, H. Spanier, Supply Control of Feed-water to Acetylene Gas Generators. 15,733, A. M. Massari, Electric Telephone Transmitters. 15,736, H. V. James, 15,829, L. J. Steele, and 15,976, Johnson & Wunderlich, Electric Arc Lamps. 15,752, A. Fraser, Door Knobs and Spindles. 15,757, H. M. Williams, Self-closing Faucets, Valves, &c. 15,765, Cambier & Cie., Gratings or Supports for Electrical Accumulator Plates. 15,769, H. Driscoll, Lamp Self-registering Gauge. 15,785, Scott & Others, Circuit Switches. 15,786, Railton and Others, Ash and other Hoists. 15,792, L. M. J. C. Levavasseur, Electric Motors. 15,793, F. Schneider, Transmission Gearings. 15,801-3, E. Leiner, Electrical Accumulators. 15,805, W. Heath, an Easel. 15,808, A. Burgin, Water-supply for Water-closet Tanks and its Control. 15,827, Allen & Glazebrook, Safety Lamps. 15,836, Agnes Marks, a Double Nail or Tack. 15,850, A. Wood, Burners for Mineral Oil Lamps. 15,861, Dannhardt & Mailer, Earth-boring Machines. 15,862, B. B. Feltus, Combination Tool. 15,866, Maroni & Others, Staging for Buildings, &c. 15,870, H. R. Hall, Water-closet Bowls. 15,872, F. M. David, a Substitute for Wood. 15,878, G. H. Dunlop, Wall or Lining for Tunnels, Shafts, and similar works. 15,886, P. de Kilduchevsky, Reflector or Screen for Electric Glow-lamps. 15,900, H. Causer, Rack-pulleys. 15,901, J. Pollock, Polishing Machinery for Wood, Marble, Metal, &c. 15,904, Matilda Shawcross, Revolving Pneumatic Sash. 15,912, T. Thomas, for Sound-proofing Partitions and Flooring. 15,921, F. Cocker, a Dust, Draught, and Rain Excluder for use with Sliding Sashes, &c. 15,924, Ermens, Flexible Valves for Pumps, &c. 15,929, R. Stone, Blast Furnaces for Cement Manufacture. 15,935, O. Houa, Distributing Cocks or Valves, for Water-meters, Hydraulic Lifts, &c. 15,944, J. Villy, and 15,972, G. Hookham, Electricity Meters. 15,946, T. W. Good, Parabolic Compass. 15,951, C. M. Callanan, and 16,019, Magneij & Plange, Valves. 15,955, A. H. Cook, Fences. 15,957-8, G. Kohl. Glow-bodies for Incandescence Burners. 15,960, Van Wie & Jacobs, Building-tiles. 15,974, R. Straube, Combined Rocking-chair and Bath. 15,987, W. E. Hipkins, Scales and Balances. 15,989, W. Barrodale, Model-drawing. 15,992, A. H. Lassells, Apparatus for Ascertaining and Indicating the Points of the Compass. 15,995. J. Shaw, Valves for Controlling the Flow of Liquids under High Pressure. 16,001, F. McNamee, Sanitary Appliances for Water-closets, Dry-closets, Dust-bins, &c. 16,016, W. Stephens, Window Ventilators. 16,022, Kiefer & Herbst, Building Blocks or Bricks. 16,025, T. P. & J. Marsh, Fire Guards. 16,026, H. Hawkins, and 16,090, H. Dant, Acetylene Gas Generators. 16,030, C. A. Rowell, Tunnelling Shield. 16,041, S. L. Huizer, Forming End Flanges on Soft Metal Pipes or Tubes. 16,042, Rosenthal & Billwiller, Packing for Joints in Pipes, Conduits, Gas Reservoirs, &c. 16,049, G. Grigioni, Acetylene Gas Burners. 16,057, Niblett & Sutherland, Electric Light Installations. 16,062, W. Wheeler, Telescopic Action for Syphons for Water-waste Preventing Cisterns. 16,064, J. Dugdill, Electric Jib Crane or Hoist. 16,066, C. S. Snell, Cranes, Derricks, &c. 16,076, R. R. Speirs, Portable Sectional Buildings of Wood, Iron, or other Composite Materials. 16,078, B. Shorthouse, Metallic Nails, Spikes, &c. 16,082, Cooper and Others, Step and Other Treads. 16,096, W. R. Pickup, Waste-water Closet Pan. 16,118, H. L. Hammer, Latch Locks. 16,131-2, C. André, Gas Grates or Stoves, and Gas Cooking Apparatus, Ovens, &c.

SOME RECENT SALES OF PROPERTY.

ESTATE EXCHANGE REPORT.

July 11.—By Baker & Sons (on the estate).

Twyford, Berks.—Loddon-rd., &c., 13 plots of building land, 23 a. 2 r. 9 p., f.	£2,285
Main-rd., an enclosure, 22 a. 1 r. 30 p., f.	300

July 14.—By Farebrother, Ellis, & Co.

Surbiton, Surrey.—Claremont-rd., f.g.r. 60*l.*, reversions in 47½ and 44½ yrs.	2,040
Adelaide-rd., f.g.r. 37*l.*, reversions in 941, 52, and 51 yrs.	1,140
Victoria-rd., f.g.r. 296*l.* 10s., reversions in 940 yrs., and also varying from 44 to 63 yrs.	7,830
Surbiton, Surrey.—Brighton-rd., f.g.r. 14*l.* 3s. 9d., reversions in 50 and 56 yrs.	565
Maple-grove, f.g.r. 4*l.* 1s., reversion in 54 yrs.	120
St. James-rd., &c., f.g.r. 77*l.* 10s., reversions in 62 and 58 yrs.	2,450
St. Andrew's-rd., f.g.r. 30*l.* 6s., reversion in 66 yrs.	760
St. Mary's-rd., f.g.r. 16*l.* 12s., reversion in 65 yrs.	440
Cottage-grove, f.g.r. 176*l.*, reversion in 45 yrs.	4,400
Cottage-grove, f.g.r. 39*l.* 12s. 6d., reversions in 943, 941, 44, 57, and 66 yrs.	1,040

By Baxter, Payne, & Lepper (at Bromley).

Shortlands, Kent.—46 and 48, Martin's-road., u.t. 81 yrs., g.r. 8*l.* 10s.	270
Bromley, Kent.—5 and 6, Babbacombe-rd., u.t. 97 yrs., g.r. 14*l.*, r. 78*l.*	630

By Lawrence & Son (at Slough).

Chalvey, Bucks.—Enclosures of building land, 3 a. 2 r. 16 p., f.	650
Enclosures of pasture land, 11 a. 2 r. 19 p., f.	1,550
A plot of building land, f.	140

By Sang & Leonard (at Brighton).

Brighton, Sussex.—14, Chichester-ter., f.	2,500
1 and 2, Clarence-mews, f.	505
Upper Portslade, Sussex.—The Paddocks Estate, 39 a. 0 r. 7 p., f., r. 250*l.*	3,000

By Dobson & Son (at Bradford).

Thornton, Yorks.—Nettle Hole Farm, 32 a. 3 r. 31 p., f.	£1,250
Denholme, Yorks.—Trough Bottom Farm, 19 a. 0 r. 20 p., f.	600
Lane Bottom Farm, 27 a. 0 r. 15 p., f.	910

July 15.—By Cockett & Henderson.

Althorne, Essex.—A freehold cottage and 5 a. 1 r. 3 p.	350
Teddington.—9 and 10, Stanley-ter., u.t. 80 yrs., g.r. 15*l.*, r. 48*l.*	410

By Duncan & Kimpton.

Euston-rd.—95, Chalton-st., u.t. 28½ yrs., g.r. 15*l.*, e.r. 70*l.*	400
Islington.—65, Cloudesley-rd., f., r. 30*l.*	380
Croydon.—2, 4, and 6, Adelaide-st., f., r. 49*l.* 8s.	550
Clapton.—1, 2, and 3, Willow-cottages, f., r. 52*l.*	575

By Charles Hall.

Wandsworth.—3, Baskerville-rd., u.t. 81 yrs., g.r. 12*l.*, e.r. 60*l.*	550
Balham.—7, Laitwood-rd., u.t. 81 yrs., g.r. 8*l.* 10s., r. 40*l.*	345

By Herring, Son, & Daw.

Streatham.—St. Julian's-rd., "Merton," u.t. 80 yrs., g.r. 31*l.* 10s.	2,200
Clapham.—King's-rd., "Avenue House," u.t. 26 yrs., g.r. 25*l.*	700

By Hedger & Mixer.

Kingsbury, Middlesex.—Slough-lane, two freehold building sites, 0 a. 3 r. 34 p.	300
Slough-lane, &c.—Nine building sites, 5 a. 1 r. 3 p., f.	1,430

By A. J. Sheffield.

Holborn.—41, Eagle-st., f., r. 42*l.*	800
2 and 3, Red Lion-passage, f., e.r. 209*l.* 19s.	1,010
Finsbury Pk.—8, 9, 10, and 11, Moreland-st., u.t. 66 yrs., g.r. 21*l.*	1,080
Canning Town.—13, 15, and 17, St. Thomas'-rd., u.t. 990 yrs., g.r. 15*l.* 15s.	525
11 and 13, Hill-st., f.	290
Plaistow.—25 and 27, Kelland-rd., f.	400
Upton Pk.—Wilson-rd., f.g.r. 21*l.*, reversion in 97 yrs.	500
Poplar.—96, East India Dock-rd., f., r. 50*l.*	440
Milwall.—3, 4, and 5, Chapel House-st., and 1, Griffin's-cottages, u.t. 44 yrs., g.r. 6*l.*	485
431, West Ferry-rd., u.t. 26 yrs., g.r. 215*l.*	100
2, 3, and 4, Griffin's-cottages, u.t. 32 yrs., g.r. 1*l.* 10s.	240
Cubitt Town.—115, 117, and 119, Manchester-rd., u.t. 52 yrs., g.r. 8*l.*	530

By Thompson & Co. (at Exeter).

Cullompton, Devon.—Mutterton Moor Farm, 10 a. 1 r. 2 p., f.	515
Plymtree, Devon.—Middle Weaver Farm, 58 a. 2 r. 19 p., f.	2,600

By Henry J. Way (at Newport).

Newport, Isle of Wight.—A blacksmith's shop and cottage, u.t. 966 yrs., g.r. 2*l.*	210
103, Pyle-st., f., e.r. 16*l.*	300
14, Castle-rd., and land adjoining, f.	270

By G. B. Hilliard & Son (at Chelmsford).

Chelmsford, Essex.—45 to 48, South Primrose Hill, f.	820
31 to 35, Roman-rd., f.	880
Gt. Baddow, Essex.—Gt. Baddow-st., a freehold cottage	230

By Sedgwick, Son, & Weall (at Rickmansworth).

Croxley Green, Herts.—Harefield Villas, f., r. 57*l.*	1,180
Harefield, Middx.—Pinner-rd, two cottages, f.	425
The Green, Kent Cottage, f.	370
1 to 4, Park-ter., f.	600
Hill End, four cottages and a plot of land, f.	340
High-rd., a malt-house, kiln, &c., f.	410
Watts Common, two cottages, c.	100

July 16.—By Sewell & Barnes (at Norwich).

Aslacton, Norfolk.—Four freehold farms, 301 a. 1 r. 16 p.	3,850
Various enclosures, 29 a. 1 r. 5 p., f.	740
Moulton, Norfolk.—Dranes Farm, 98 a. 0 r. 1 p., f.	800
Cottage, two shops and 0 a. 3 r. 5 p., f.	175
Long Stratton, Norfolk.—Four cottages, house and shop and garden ground, f.	505
Enclosures, with buildings thereon, 15 a. 1 r. 4 p., f.	540
Tharston, Norfolk.—Two enclosures, 8 a. 0 r. 39 p., f.	180

By Protheroe & Morris (on the Estate).

Thundersley, Essex.—A freehold cottage and 13 a. 2 r. 16 p.	400
30 plots of building land, f.	444

By G. W. Finn & Son (at Canterbury).

Herne Bay, Kent.—36, Underdown-st., with a slaughter-house, f.	1,150
Hernhill, Kent.—Manor House and 13 a. 3 r. 34 p., f.	1,450
Canterbury, Kent.—7, St. George's-st., f.	960

By Elworthy & Son (at Wisbech).

Upwell, Cambs.—A freehold farm, 58 a. 2 r. 34 p.	2,000
Sutton, St. Edmunds, Lincs.—Enclosures of land, 10 a. 1 r. 5 p., c.	440
A copyhold farm, 52 a. 0 r. 1 p.	1,900
House, two cottages, and 2 a. 0 r. 30 p., f.	243
Guanock House Farm, 94 a. 1 r. 32 p., f.	4,100
Two enclosures, 11 a. 2 r. 15 p., f.	565
Tydd St. Mary, &c., Lincs.—Fen Farm, 85 a. 1 r. 31 p., f.	2,200
Three enclosures, 31 a. 3 r. 21 p., f.	1,030

By Stephenson & Alexander (at Bridgend).

St. Bride's Major, Glamorgan.—The Marine Hotel, f., r. 100*l.*	2,000
Various enclosures, 21 a. 1 r. 39 p., f.	1,485
Two cottages and 1 a. 3 r. 32 p., f.	300
Wick, Glamorgan.—Five enclosures, 35 a. 2 r. 38 p., f.	1,520

July 18.—By Boyton, Pegram, & Buckmaster.

Fulham.—North End-rd., f.g.r. 11*l.*, reversion in 6½ yrs.	1,570
199 and 201, North End-rd., f.	2,480
17, Favart-rd., u.t. 81 yrs., g.r. 6*l.* 6s., r. 36*l.*	380

By Dennant & Co.

Hanwell.—29 and 31, Boston-rd.; also Jessamine Cottage and 1 a. 0 r. 15 p., f.	1,800

By Langridge & Freeman.

Wrotham, Kent.—Two freehold building sites, 17 a. 0 r. 11 p.	615
Mount House and 38 a. 0 r. 20 p., f.	1,050

A range of hoppers' houses and 24 a. 0 r. 25 p., f. £430
Platt Farm, 67 a. 1 r. 32 p., f. 1,500
House, cottage, forge, &c., with fruit plantation, 11 a. 3 r. 32 p., f.
Crouch House and 101 a. 2 r. 30 p., f. 4,950

By Moss & JAMESON.

Smithfield.—7 and 8, Cowcross-st., f., r. 115*l.* 2,060
Brixton.—92, Lothian-rd., f., e.r. 45*l.* 575
Wandsworth.—24, Geraldine-rd., u.t. 82½ yrs., g.r. 7*l.* 10s., r. 35*l.* 430

By PROTHEROE & MORRIS.

Leytonstone.—54, Fairlop-rd., u.t. 78 yrs., g.r. 6*l.* 6s., e.r. 42*l.* 425
Leyton.—124 and 126, Oakdale-rd., u.t. 83 yrs., g.r. 6*l.* 200
70, Claremont-rd., u.t. 87 yrs., g.r. 3*l.* 10s. 160
Brentwood, Essex.—Queen's-rd., Hillesdon, f., r. 40*l.* 670

By J. H. BETHELL (at East Ham).

Upton Pk.—Harold and Claud-rds., 94 plots of building land, f. 6,447

By J. M. LEEDER & SON (at Swansea).

Swansea, Glamorgan.—26, Castle-st., f., r. 368*l.* 6,000

By PENDERED & SON (at Rushden).

Rushden, Northants.—A copyhold building estate, 134 a. 1 r. 15 p. 8,300
A copyhold farm, 51 a. 3 r. 38 p. 1,400
Three enclosures, 25 a. 2 r. 34 p., c. 680

July 19.—By DEBENHAM, TEWSON, & Co.

Oxford-st.—Nos. 175, 177, 179, and 181, area 7,611 ft., f., r. 2,120*l.* 52,550
Dunton Green, Kent.—"The Railway Tavern" b.-h. and 0 a. 1 r. 5 p., f., r. 25*l.* 1,000

By FRANKLIN HOMAN.

Hammersmith.—Sotherton-rd., f.g.r. 24*l.*, reversion in 67 yrs. 620
Overstone-rd., f.g.r. 6*l.*, reversion in 67 yrs. 152
Plumstead, Kent.—17, Vicarage Pk., u.t. 65 yrs., g.r. 7*l.* 7s., r. 28*l.* 300

By E. & H. LUMLEY.

Sedlescombe, Sussex.—Enclosures of land, 17 a. 3 r. 39 p., f. 300

By Messrs. MELLERSH.

Elstead, Surrey.—Elstead Lodge and 19 a. 0 r. 13 p., c. 3,800
The Hermitage and 1 a. 0 r. 10 p., c., r. 60*l.* 1,250

By A. H. TURNER & Co.

Piccadilly.—B 6, The Albany, f., r. 110*l.*, subject to a fee farm rent of 30*l.* 525

By F. VARLEY.

Stroud Green.—111, Oakfield-rd., u.t. 78 yrs., g.r. 8*l.* 8s., e.r. 55*l.*
Holloway.—29, Russell-rd., u.t. 62½ yrs., g.r. 6*l.*, r. 32*l.* 350
42, Alexander-rd., u.t. 64 yrs., g.r. 6*l.* 340

By ROGERS, CHAPMAN, & THOMAS.

Kensington.—31, Earl's Court-rd., u.t. 25 yrs., g.r. 7*l.*, r. 50*l.* 510
80 and 82, Earl's Court-rd., u.t. 24 yrs., g.r. 8*l.*, r. 115*l.* 1,075
Knightsbridge.—60 and 61, Beauchamp-pl., u.t. 25 yrs., g.r. nil, r. 85*l.* 820
62, Beauchamp-pl., u.t. 25 yrs., g.r. nil, r. 50*l.* 630
185 and 187, Brompton-rd., u.t. 25 yrs., g.r. 24*l.* 10s., r. 360*l.* 6,470

By BEAN, BURNETT, & ELDRIDGE.

Lee.—76, Eltham-rd., u.t. 61 yrs., g.r. 18*l.*, r. 100*l.* 725
Herne Hill.—227, Norwood-rd., u.t. 73 yrs., g.r. 6*l.*, e.r. 40*l.* 420
Tottenham.—58 to 70 (even), Grove Park-rd., u.t. 84 yrs., g.r. 37*l.* 12s. 1,750

By ALFRED RICHARDS.

Enfield Highway.—Ordnance-rd., a freehold building estate, 16 a. 0 r. 12 p. 3,800
Ponders End.—South-st., The Limes, f., r. 50*l.* 940
1 to 7, Langford Cottages, and 4 a. 3 r. 31 p., f. 2,070
1 to 22, South-pl., f. 2,175
Southbury-rd., Cotwells, and a cottage adjoining, f. 2,475
Southbury-rd., a block of building land, 18 a. 3 r. 36 p., f. 4,700
Southbury-rd., three blocks of building land, 44 a. 2 r. 32 p., f. 10,950
Valley-rd., two blocks of building land, 34 a. 1 r. 10 p., f. 2,310

By ORGILL, MARKS, & ORGILL (at Masons' Hall Tavern).

Frinton-on-Sea, Essex.—"The Grand Hotel," u.t. 76 yrs., g.r. 60*l.* 8,500

By FLEURET, SONS, & ADAMS (at Masons' Hall Tavern).

Camberwell.—Lilford-rd., "The Lilford Arms" p.h., u.t. 13 yrs., g.r. 10*l.*, r. 75*l.* 15s. 580

By TABERNACLE & SON (at Masons' Hall Tavern).

Strand.—Villiers-st., "The Griffin" p.h., u.t. 20½ yrs., r. 500*l.*, with goodwill 33,600

By ALFRED PREECE (at Clapham Junction).

Battersea.—13, 15, and 17, Totteridge-rd., u.t. 79 yrs., g.r. 12*l.* 615
19, 21, 25, and 27, Urswicke-rd., u.t. 79 yrs., g.r. 16*l.* 830
471, 475, 477, and 479, Battersea Pk.-rd., u.t. 63 yrs., g.r. 36*l.* 1,185
8, Yelverton-rd., u.t. 79 yrs., g.r. 3*l.* 10s. 210
24, 25, and 26, Simpson-st., u.t. 58 yrs., g.r. 15*l.* 15s. 545
Wimbledon.—Trinity-rd., Rockcliffe, u.t. 67 yrs., g.r. 10*l.* 10s., r. 40*l.* 320

Kingston, Surrey.—3, Elm-cres., u.t. 63 yrs., g.r. 4*l.*, r. 20*l.*

By HUSSEY & SON (at Tiverton).

Uffculme, Devon.—Hacken Hill, enclosures, 72 a. 1 r. 27 p., f. 225

By H. J. CHEFFINS (at Saffron Walden).

Radwinter, Essex.—Jenkinhog's and Mortlock's Farms, 165 a. 3 r. 39 p., f. 400
Great Brockholds Farm, 256 a. 0 r. 24 p., f. 1,300

By KIDWELL & SON (at Rochester).

Luton, Kent.—Stone Cross Farm, 128 a. 3 r. 39 p., f. 1,750

By HUNT & PEDDAR (at Ipswich).

Gosbeck, Suffolk.—High Elm Farm, 55 a. 3 r. 1 p., f. 6,350
Somersham, Suffolk.—Cold Hall Farm, 40 a. 3 r. 10 p., f. 710
Needham Market, Suffolk.—House and shop and two cottages, f. 500

By J. PLUMER CHAPMAN (at Lewes).

Lewes Sussex.—24, Keere-st., f. 403
to 10, Eastport-st., f. 165
9, 10 and 11 Garden-st., f. 555
520

24 to 28, North-st., f. £610
2 to 8 (even), Spring Gardens, f. 345
45, St. John-st., f. 150
92, High-st. (The Monkey House), f., r. 30*l.* 700
Western Passage, a freehold warehouse and stoie 110
11 and 12, New-st., f. 405
3, 4, and 5, Mount Pleasant, c. 335
Greenwall, two freehold cottages 145
Southover, Rose Cottage, f. 135

By J. C. PLATT (at Hammersmith).

Shepherd's Bush.—10 and 11, Coningham Mews, u.t. 66 yrs., g.r. nil 250
Fulham.—2, 4, and 10, Buer-rd., u.t. 95 yrs., g.r. 21*l.*, r. 108*l.* 885
Acton.—71 to 89 (odd), Osborne-rd., u.t. 70 yrs., g.r. 30*l.* 900
Chiswick.—14 to 22 (even), Glebe-st., u.t. 70 yrs., g.r. 17*l.* 10s. 1,050

July 20.—By A. T. & E. A. CROW (at Sunderland).

Haswell, Durham.—Part of Haswell Moor Farm, 47 a., f. 570
Haswell Moor Cottage and 2 a., f. 150
Nine plots of land, f. 105
Shotton, Durham.—The Shotton Grange Estate, 281 a., part f. and part l. 3,541
White House Farm, 33 a., f. 1,010

By PENDERED & SON (at Wellingborough).

Irthlingborough, Northants.—Spring-terrace Tenements, f. and c. 1,680
Two freehold houses and shoe manufactory 990
Two enclosures of building land, 12 a. 1 r. 12 p., f. 2,160
Five copyhold closes, 53 a. 3 r. 31 p. 1,940
A freehold farmhouse and 3 r. 4 p. 770
A freehold farm, 105 a. 0 r. 5 p. 1,600
Broadholme Farm, 104 a. 2 r. 19 p., f. 4,000
Two enclosures, 24 a. 0 r. 32 p., f. and c. 700
Higham Ferrers, Northants.—A freehold enclosure, 3 a. 3 r. 16 p. 160

By T. P. & A. SAUL (at Boston).

Kirton, Lincs.—Enclosures of land, 36 a. 1 r. 27 p., f. 2,350
Kirton Skeldyke, Lincs.—A freehold farm, 142 a. 3 r. 29 p. 7,150
Enclosures of land, 77 a. 2 r. 26 p., f. 3,970
Kirton Marsh, Lincs.—A freehold farm, 83 a. 2 r. 27 p. (including herbage rights) 2,600
Algarkirk, Lincs.—Enclosures of land, 39 a. 2 r. 5 p., f. 1,900

By JOHN FRANCIS (at Tenby).

Amroth, &c., Pembroke.—The Moor Farm, 36 a. 1 r. 33 p., f. 500

By ARBER, RUTTER, & WAGHORN.

Mayfair.—30, Berkeley-sq., and 2, Bourdon-st., u.t. 22¾ yrs., g.r. 100*l.* 10,600
City of London.—13 and 14, Bury-st., u.t. 60 yrs., g.r. 140*l.*, r. 325*l.* 2,000
Lambeth.—Vauxhall Walk, c.g.r. 20*l.* 10s., reversion in 18 yrs. 700
Hyde Pk.—31, Upper Berkeley-st., u.t. 14 yrs., g.r. 25*l.* 540

By S. CHETWOOD.

Cubitt Town.—469 and 471, Manchester-rd., u.t. 43 yrs., g.r. 8*l.*, r. 50*l.* 250

By GEORGE BRINSLEY.

Poplar.—18 nd 20, High-st., f., r. 52*l.* 445
155, High-st-, c. 285
45, Northumberland-st., and 44 and 46, Arcadia-st., u.t. 54 yrs., g.r. 9*l.* 575

By H. E. FOSTER & CRANFIELD.

Brixton.—140, Loughborough-pk., u.t. 24 yrs., g.r. 6*l.*, e.r. 38*l.* 330
Mile End.—40, White Horse Lane, f., r. 25*l.* 300

By J. HIBBARD & SONS.

Clapton.—27 to 33 (odd), Pembury-grove, r. 104*l.*; also l.g.r. 24*l.*, u.t. 39 yrs., g.r. 35*l.* 865
Balls Pond.—52, Kingsbury-rd., u.t. 53 yrs., g.r. 4*l.*, r. 32*l.* 310
Cricklewood.—13, Howard-rd., f., r. 36*l.* 480

By V. S. LEIGH.

St. George's East.—Cannon-st.-rd., f.g.r. 15*l.*, reversion in 69 yrs. 340

By R. W. MANN & SON.

Covent Garden.—Rose-st., "The Lamb and Flag" b.h., a freehold rent of 65*l.*, reversion in 17 yrs. 2,550

By MATTHEW MILES.

Southwark.—157, Tooley-st., and "The Anti-gallican" p.h., f., r. 100*l.* 8,100

By E. W. RICHARDSON & SON.

Limehouse.—6 and 8, Notgrove-st., f., r. 31*l.* 4s. 285
Poplar.—31, Susannah-st., f., r. 23*l.* 8s. 250
Finchley.—Ballards-lane, Stafford House, u.t. 80 yrs., g.r. 6*l.* 10s. 280

By RUSHWORTH & STEVENS.

Leyton.—12, Carlisle-rd., f., e.r. 25*l.* 280

By RUSHWORTH & STEVENS.

St. John's Wood.—81, Hamilton-ter., u.t. 24 yrs., g.r. 2*l.* 460
Maida Vale.—8 and 10, Warwick-rd., u.t. 39 yrs., g.r. 24*l.*, r. 130*l.* 1,090

By T. G. WHARTON.

Felsham, Suffolk.—Felsham Hall and 150 a. 3 r. 21 p., f. 2,000
East Ham.—1, 5 to 13 (odd), Radcliffe-rd., u.t. 89 yrs., g.r. 30*l.* 845

By DOUGLAS YOUNG & Co.

Shepherd's Bush.—Orchard-rd., a block of building land, f. 1,150
Station-rd., a block of land, area 21,780 ft., f. 1,010
Camberwell.—11 and 13, Belinda-rd., u.t. 69 yrs., g.r. 10*l.* 350
Streatham.—37, Gleneldon-rd., f., r. 40*l.* 630
Lewisham.—112 and 114, Lee-rd., u.t. 59 yrs., g.r. 17*l.*, r. 95*l.* 750
Tooting.—Trinity-rd., f.g.r. 5*l.* 16s. 8d., reversion in 72 yrs. 155
Deptford.—9, 11, and 13, Knott-st., u.t. 58 yrs., g.r. 15*l.* 15s. 190
Charlton, Kent.—28 to 38 (even), West-st., u.t. 45 yrs., g.r. 11*l.* 2s. 350

July 21.—By ALDER & Co.

Wallington.—Manor-rd., Heathfield, u.t. 69 yrs., g.r. 10*l.*, e.r. 70*l.* 700

By BAKER & SON.

Brixton.—69, Acre-lane, u.t. 66 yrs., g.r. 2*l.* 15s., e.r. 60*l.* 660

By T. H. CURRIE.

Neasden.—10, Lansdowne-grove, u.t. 88 yrs., g.r. 6*l.*, r. 38*l.* 415

By DOLMAN & PEARCE.

Hampstead.—124, Adelaide-rd., u.t. 54 yrs., g.r. 10*l.* 10s. £600

By EDWIN EVANS.

Paddington.—11, Leamington-rd. Villas, u.t. 58 yrs., g.r. 10*l.* 10s. 415
Wood Green.—26, Commerce-rd., u.t. 70½ yrs., g.r. 10*l.*, r. 36*l.* 195
Holloway.—4, Charles-st., u.t. 45 yrs., g.r. 6*l.* 190
Nunhead.—68, Nunhead-grove, u.t. 72 yrs., g.r. 6*l.*, r. 28*l.* 270

By FAREBROTHER, ELLIS, & Co.

East Sheen.—Park-rd., The Firs and 7¾ a., f., r. 300*l.* 7,300
Northfleet, Kent.—13 to 23 (odd), Gordon-rd., f. 680

By H. J. BLISS & SONS.

Fulham.—26 to 40 (even), Claxton-grove, u.t. 85 yrs., g.r. 40*l.* 1,780
Bethnal Green.—13, Dunloe-st., u.t. 28 yrs., g.r. 2*l.* 16s. 220
Leyton.—1, Palamos-rd., f., r. 21*l.* 330
Hoxton.—256 and 258, Hoxton-st., and 2, 3, 4, 8, and 9, Byng's-buildings, f. 1,310
Haggerston.—9, Alfred-pl., f. 280
Holloway.—80 and 82, Yerbury-rd., u.t. 69 yrs., g.r. 13*l.*, r. 72*l.* 540

By Messrs. CRONK.

Westerham Hill, Kent.—Cudham Grange and 22 a., f. 1,580

By C. C. & T. MOORE.

Poplar.—11, 12, and 13, Latham-st., u.t. 69 yrs., g.r. 15*l.* 495
Stepney.—15 and 17, York-rd., f., also two arches, u.t. 951 yrs., g.r. nil 700
Clapton.—2 to 16 (even), Maclaren-st., u.t. 82 yrs., g.r. 40*l.* 920
Mile End.—1, 3, and 5, Bale-st., u.t. 56 yrs., g.r. 8*l.* 5s. 365
Bow.—21, Athelstane-rd., u.t. 55 yrs., g.r. 4*l.* 4s. 255
Mile End.—14, 15, and 16, Leopold-st., u.t 64 yrs., g.r. 13*l.* 10s. 1,055
Victoria Pk.—18, Cawley-rd., u.t. 55 yrs., g.r. 6*l.*, r. 40*l.* 440

By STIMSON & SONS.

Peckham.—14, Rye Hill-pk., u.t. 67 yrs., g.r. 7*l.* 10s., e.r. 32*l.* 195
Bermondsey.—84, Keeton's-rd., u.t. 48 yrs., g.r. 6*l.*, r. 50*l.* 600
Bayswater.—20 to 30 (even), Talbot-rd., u.t. 58 yrs., g.r. 60*l.* 3,920
Marylebone.—13, Southampton-st., f., r. 55*l.* 910
10, Great Marylebone-st., u.t. 76 yrs., g.r. 20*l.*, r. 355*l.* 2,500
33, Little Marylebone-st., u.t. 70 yrs., g.r. 12*l.*, r. 254*l.* 16s. 2,210
Bloomsbury.—11, Dyott's-st., u.t. 72 yrs., g.r. 52*l.* 10s., r. 250*l.* 2,500
Marylebone.—61, Charlotte-st., u.t. 47 yrs., g.r. 18*l.*, increasing to 30*l.* 1,010
Catford.—1, Rutland-pk., f., r. 22*l.* 290
Horselydown.—18 to 30, Sard's-rents, f. 2,030

By HENRY HENDRIKS (at Birmingham).

Edgbaston, Warwick.—7, Charlotte-rd., u.t. 51 yrs., g.r. 6*l.* 11s. 575
Birmingham.—280, 281, 282, and 283, Summer-lane, f., r. 116*l.* 1,700
Paignton-rd., f.g.r. 23*l.*, reversion in 98 yrs. 700

By BIDWELL & SONS (at Ely).

Sutton, Cambs.—Lawn House and 6 a. 0 r., 31 p., f. 700
A freehold holding, area 40 a. 2 r. 4 p. 1,100
A freehold brewery, also "The Plough Boy" p.-h. 450
A freehold residence and shop, r. 43*l.* 625
The Mill Ground Allotment, 29 a. 3 r. 37 p., f. 1,000
Various enclosures, 86 a. 0 r. 20 p., f. 2,332
The Barn Ground Homestead, 6 a. 2 r. 31 p., f. 250
Enclosures of fen land, 47 a. 1 r. 9 p., f. 1,035
Chatteris, Cambs.—Various enclosures, 28 a. 3 r. 36 p., f. 662

By DRIVER & Co. (at Chichester).

Chichester, Sussex.—Stockbridge House Farm, and part of North End Farm, 118 a. 2 r. 21 p., f., including tithe rent charge of 27*l.* 12s. 12,050
The Manor or Lordship of Donnington, with five freehold farms, 873 a. 1 r. 25 p., including tithes of £148*l.* 14s. 28,600
Selsey-rd., The Blacksmith's Arms, b.-h., and 0 a. 1 r. 12 p., f. 1,525
Stockbridge-rd., a freehold cottage and 4 a. 1 r. 26 p. 670
Stockbridge-rd., &c., four building sites, 14 a. 3 r. 36 p., f. 1,470
Stockbridge-rd., four building plots, f. 140
New-rd., nineteen building plots, f. 422

July 22.—By DICKINSON & RIGGALL (at Great Grimsby).

Great Grimsby, Lincs.—47, Victoria-st., area 680 yds., f. 1,250

By DAVIS & SHOESMITH (at Halifax).

Greetland, Yorks.—Bank End Farm, 27 a. 1 r. 29 p., f. 1,410
Upper and Lower High Trees farms, 51 a. 2 r. 3 p., f. 2,740
Three Closes and Quarry Hills, 10 a. 0 r. 16 p., f. 410
Crawstone Hall and 31 a. 2 r. 30 p., f. 1,550
Gallows Pole Hill allotment, 31 a. 2 r. 30 p., f. 150

By WARD & CHOWEN (at Tavistock).

Petertary, Devon.—Standon, otherwise Stannon Manor Estate, 126 a. 1 r. 4 p., f. 2,900

By MOORE, GARRARD, & SON (at Framlingham).

Earl Soham, Suffolk.—The White House Farm, 123 a. 0 r. 25 p., f. 1,65
Badingham, Suffolk.—Self's Farm, 7 a. 2 r. 30 p., f. 22
The High House Farm, 71 a. 1 r. 27 p., f. 670
Six enclosures, 43 a. 1 r. 22 p., f. 400
Police station, business premises, and 3 r. 20 p., f. 175
Two freehold cottages, blacksmith's shop, and 2 r. 12 p., f. 320

By RICHARD AUSTEN (at Chichester).

Sidlesham, Sussex.—Easton Farm, 396 a. 0 r. 2 p., f. 10,750
Enclosures of land, 20 a. 3 r. 36 p., f. 580

By G. A. WILKINSON & SON.

Bermondsey.—Jamaica-rd., &c., f.g.r. 100*l.*, reversion in 24½ yrs. 3,810
Rotherhithe.—1, 3, and 5, Paradise-st., f. 1,310
Old Kent-rd.—Lower Park-rd., f.g.r. 20*l.*, reversion in 13 yrs. 1,160

COMPETITIONS, CONTRACTS, AND PUBLIC APPOINTMENTS.

COMPETITIONS.

Nature of Work.	By whom Advertised.	Premiums.	Designs to be delivered.
*Shops and Dwelling Houses	Plymouth Town Council	Premium, 250*l.*	Sept. 24

CONTRACTS.

Nature of Work or Materials.	By whom Required.	Forms of Tender, &c. Supplied by	Tenders to be delivered.
*Repairs, &c. to Tar Paving	Croydon Union	F. West, 23, Coombe-road, Croydon	Aug. 8
Engine House, &c.	Heckmondwike Indus. Co-op. Soc. Ltd.	A. A. Stott, Archt. Heckmondwike	Aug. 9
Alterations to Parnassus Mount, Knaresborough	.....	Buttery & Birds, Archt. Morley	do.
House, Halifax-road, Brighouse, Yorks	.....	Sharp & Waller, Archt. 32, Bradford-rd Brighouse	do.
Cemetery Works, &c. Bangor, co Down	Burial Board	T. Morgan, Bangor, Ireland	do.
Glass Factory, Castleford, near Normanton	.....	R. M. McDowall, Archt. Carlton-st. Castleford	do.
Quarrying and Breaking Stone, Abbot's Leigh	Bristol U.S.A.	T. H. Yabbicom, C.E. 63, Queen-sq Bristol	Aug. 10
Additions to Schools	Sandwich U.D. Sch. Bd.	W. J. Jennings, Archt. 4, St. Margaret's-st. Canterbury	do.
Main Road Improvements, Llanbradach	Glamorgan C.C.	T. M. Franklen, County Offices, Cardiff	do.
Bridge Works, Gellifaelog	do.	do.	do.
Brick Bridge over Mill Drain	East Elloe R.D.C.	E. W. Veale, Sutton, St. James	do.
Service Reservoir, Cast Iron Mains, &c. Bamford	Chapel-en-le-Frith R.D.C.	Sterling & Swann, Engr. Town Hall, Chapel-en-le-Frith	do.
*Vagrant Cells at Workhouse	Petersfield Union	Keates, College-st. Petersfield	do.
Street Works, Stanley-road, &c. Bracknell	Easthampstead R.D.C.	C. J. Cave, Council's Offices, Bracknell, Berks.	do.
House at Waterworks, Wombourn	Bilston U.D.C.	J. Wassell, Town Hall	do.
*Galvanised Iron Building at Workhouse	West Ham Union	The Clerk's Offices, Union-road, Leytonstone, E.	do.
Sanitary Works, Cobden Club Kensal-road, Harrow	.....	J. R. Wade, Cobden Club, Harrow	Aug. 11
Five Shops, Batley, Yorks.	.....	B. Watson, Archt. Bradford-rd. Batley	do.
School, Oakshaw	Paisley (N.B.) School Board	C. Davidson, Archt. Paisley	do.
Two Houses, Long Car-lane, Barnsley	.....	Wade & Turner, Archt. 10, Pitt-st. Barnsley	Aug. 12
Fountain, Ballycastle, co. Antrim	.....	R. P. Woodside, Ballycastle	do.
Cast Iron Pipes, Hydrants, &c. Templenewsam & Thorp	Hunslet R.D.C.	W. B. Pindar, Council's Offices, Hunslet	Aug. 13
Additions to Workhouse	Burnley Union	S. Keighley, Archt. Nicholas-st. Burnley	do.
Schools	Wilmington Sch. Bd.	E. Vinall, Archt. Silverdale-rd. Eastbourne	do.
Additions to Farm Buildings, Ewanrigg, near Maryport	.....	Castiglione & Gibbings, Surv. 31, Lowther-st. Carlisle	do.
Shop and House, Middle-st. Consett Durham	A. S. Coates	A. S. Coates, Havelock-st. Consett	do.
School Works, Sturry, Kent	.....	Rev. G Billing, The Vicarage, Sturry	do.
Hospital, Over	Gloucester Corp.	Medland & Son, Archt. Gloucester	Aug. 15
Walls, &c. Extension of Sheds, &c. Tinsley	Bexhill (Sussex) U.D.C. Sheffield Tramway Committee	G. Ball, C.E. Town Hall	do.
Steel and Ironwork for Uganda Railway	Colonial Office	C. F. Wike, C.E. Town Hall	do.
Seven Cottages, The Cross, Ecclesfield	.....	Crown Agent, Downing-street, S.W.	do.
Fifteen Cottages, Johnson-street, Wincobank, Sheffield	D. Haigh	G. A. Wilson, Archt. Hartshead-chambers, Sheffield	do.
		do.	do.

CONTRACTS—*Continued.*

Nature of Work or Materials.	By whom Required.	Forms of Tender, &c. Supplied by	Tenders to be delivered.
Concrete Wall, Abbey	Romsey (Hants) Corp.	Borough Surveyor, Market-place, Romsey	Aug. 16
Bogie Tank, Engine, &c. Valletta, Malta	Director of Contracts	Manager, Malta Railway, Valletta	Aug. 18
Additions to Workhouse	Easingwold (Yorks.) Union	F. J. H. Robinson, Union Offices, Easingwold	Aug. 19
Houses, Grangemouth	.....	G. D. Page, Archt. Falkirk	Aug. 22
*Sewage Farm Extension Works	Oxford Corp.	W. H. White, Town Hall, Oxford	dr.
*Cottage and Farm Buildings	do.	do.	do.
Pauper Children's Homes	Blackburn Union	Stones & Gradwell, Archt. Richmond-ter. Blackburn	Aug. 23
*Public Baths	Walthamstow U.D.C.	Spalding & Cross, 15, Queen-st. Cheapside	do.
*Pipe Sewer	Shoreditch Vestry	J. R. Dixon, Town Hall, Old-street, E.C.	Aug. 24
Technical College, Green Terrace	Sunderland Corp.	Potts, Son, & Hemmings, Archt. Ely-place, Holborn	Aug. 25
Institute, Park-road, Consett, Durham	Committee	C. E. Oliver, Archt. Consett Iron Co.'s Offices, Blackhill, co. Durham	Aug. 27
Superstructure, Central Power Station Dublin	.....	Secretary, Dublin United Tramways Co. 9, Upper Sackville-street, Dublin	No date
Schools and House, Nenthead	Alston Sch. Bd.	T. E. Davidson, Archt. 33, Grainger-street West, Newcastle-on-Tyne	do.
Hotel, Bridge-street, Gateshead	.....	do.	do.
Church, &c. Ashington, Durham	.....	C. S. Errington, Archt. Victoria-buildings, Grainger-street West, Newcastle-on-Tyne	do.
Cottage, Glascoego, Blackburn	.....	Jas. Kemp, 621, George-st. Aberdeen	do.
Supply and Laying Cast-iron Pipes, Culter, Aberdeenshire	.....	Beattie & Macdonald, 21, Bridge-street, Aberdeen	do.
Additions to House, Wansford	Oddfellows Society	J. C. Traylen, Archt. 16, Broad-street, Stamford	do.
Villas, Hasland, near Chesterfield	.....	W. C. Jackson, Archt. 29, Knifesmith-gate, Chesterfield	do.
House, Crescent-avenue, Whitby	Capt. J. Willis	H. Walker, West Cliff Estate, Whitby	do.
Three Villas, Crescent-avenue and Upgang-road, Whitby	W. S. Gray	do.	do.
Villa, Talgarth, Brecon	.....	R. Wellings Thomas, Archt Bank-terrace, Talgarth	do.
Fourteen Houses, Hunslet, Leeds	A. Shires	W. M. Coggill, Archt. Beechgrove, Stourton	do.
Rebuilding Edinburgh Castle Inn, Northfleet	.....	G. Saltmarsh, Brewery Office, Northfleet	do.
Schools, Woodhouse (West)	Handsworth Sch. Bd.	J. D. Webster, Archt. 19, St. James'-st. Sheffield	do.
*Road-making	Burgess Hill Estate Owners	Brown & Barrow, Amberly House, Norfolk-st. W.C.	do.
*Hall at Owens College	.....	A. Warehouse & Son, 20, New Cavendish-st. W.	do.
*Eight Cottages	Co.-op. Land & House &c. Society, Ltd.	C. M. Shiner, 2, Walbrook, E.C.	do.
Additions to Schools, Llanbradach, Glam.	.....	E. M. Bruce Vaughan, Archt. Cardiff	do.
Additions to National Schools, Mistley Norman, Suffolk	.....	Baker & May, Archt. Colchester	do.
House, &c. Rope Walk, Southwell	G. Ulyatt	W. Cottam, Southwell	do.

PUBLIC APPOINTMENTS.

Nature of Appointment.	By whom Advertised.	Salary.	Application to be in.
*Surveyor and Inspector of Nuisances	South Hornsey D.C.	250*l.* per annum	Aug. 17
*Inspector of Sewers	Coventry Corp.	2*l.* per week	Aug. 18
*Architectural Assistant	Beckenham U.D.C.	3*l.* 3*s.* per week	Aug. 19

Those marked with an asterisk (*) are advertised in this Number. ***Competitions,*** p. iv. ***Contracts,*** pp. iv. vi. & viii. ***Public Appointments,*** pp. xiv. xv. & xvii.

Lower Park-rd., &c., f.g.r. 130*l.*, reversion in 39 yrs. £3,450
Peckham.—85 to 117, Bird-in-Bush-rd., f. 4,950

By Field & Sons.

Stockwell.—105, 105a, and 105b, Stockwell-rd., f., r. 265*l.* 4,275
Bermondsey.—78 to 86 (even), Leroy-st., u.t. 82 yrs., g.r. 26*l.* 5*s.* 690
Southwark.—3, Quilp-st., f., including goodwill 1,710

By Barton, Smith, & Co.

Streatham.—9 and 11, Natal-rd., u.t. 85 yrs., g.r. 10*l.* 10*s.* 450

By Harman Bros.

Stoke Newington.—23, Kyverdale-rd., u.t. 82 yrs., g.r. 9*l.*, e.r. 55*l.* 530
Hampstead.—12, Lawn-rd., u.t. 52 yrs., g.r. 21*l.*, r. 70*l.* 490

By J. W. Neighbour.

Stoke Newington.—39 and 41, Carysfort-rd., u.t. 93½ yrs., g.r. 16*l.*, r. 84*l.* 780

By Humbert & Flint.

Highbury.—Highbury Hill, f.g.r. 585*l.* 14*s.*, reversions varying from 53 to 66 yrs. 19,605

July 23.—By Stephenson & Alexander (at Cardiff).

Pendoylan, Glamorgan.—Maesyrhaul Farm, 67 a. 1 r. 27 p., f. 3,000
An enclosure of land, 7 a. 0 r. 26 p., f. 700

By Messrs. Spelman (at Norwich).

Cantley, Norfolk.—House, farm premises, and 3 a. 0 r. 35 p., f. 300
Freehold house and Little Marsh, 1 a. 1 r. 22 p. 150
Enclosures of marsh land, 26 a. 1 r. 25 p., f. 715
Smallburgh, Norfolk.—A freehold residence and 1 a. 2 r. 1 p. 480
Worstead, Norfolk.—A freehold house and 2 a. 0 r. 29 p. 250
Horningtoft, Norfolk.—The "Bell Inn" and 2 a. 2 r. 1 p., f. 920
A freehold farm, 28 a. 1 r. 23 p. 650
Five enclosures, 22 a. 3 r. 20 p., f. 265
North Walsham, Norfolk.—Two plots of building land, 5 a. 0 r. 15 p., f. 235

By Nethersole & Honeyball (at Canterbury).

Ash-next-Sandwich, Kent.—Enclosures of arable, 64 a. 1 r. 37 p., f. 1,605
Enclosures of marsh, 116 a. 2 r. 15 p., f. 1,145
Paramor Grange Farm, 34 a. 1 r. 11 p., f. 1,000
Market Garden Land, 27 a. 2 r. 34 p., f. £1,125
Little Knell Field, 21 a. 0 r. 31 p., f. 625
Guston Marshes, 38 a. 1 r. 2 p., f. 900

By Herbert S. R. Stanford (at Framlingham).

Badingham, Suffolk.—The Red House Farm, 157 a. 3 r. 4 p., f. 1,600
The White House Farm, 121 a. 0 r. 3 p., f. 1,310
Four enclosures, 14 a. 2 r. 16 p., f. 230
Three freehold cottages 150

By Bidwell & Sons (at Cambridge).

Cherryhinton, Cambs.—Two building plots, 2 a. 2 r. 2 p., f. 270

By Lloyd & Thomas (at Carmarthen).

Conwil-Elvet, Carmarthen. — Nantyherwydd Farm, 143 a. 0 r. 2 p., f. 910

July 25.—By Henry Hooper.

Kensington.—Perham-rd., i.g.r. 77*l.*, u.t. 73 yrs., g.r. nil 1,680

By Montagu & Robinson.

Hackney.—296, Mare-st., f., r. 100*l.* 2,500
318, Mare-st., f., r. 65*l.* 1,300

By Alex. Phillips.

Marylebone.—112, Marylebone-rd., u.t. 24 yrs., g.r. 4*l.*, r. 52*l.* 495
Paddington.—31, Titchborne-st., u.t. 19 yrs., g.r. 7*l.* 12*s.* 8*d.*, r. 45*l.* 385

By Thurgood & Martin.

City of London.—87 and 88, Leadenhall-st., u.t. 75 yrs., g.r. 274*l.*, r. 887*l.* 10*s.* 7,300
Belgravia.—Belgrave-sq., i.g.r. 100*l.*, u.t. 26 yrs., g.r. 4*l.* 1,370
Eaton-pl., i.g.r. 40*l.*, u.t. 26 yrs., g.r. 10*l.* 450
Paddington.—Edbrooke-rd., i.g.r. 96*l.*, u.t. 64 yrs., g.r. 2*l.* 1,960

By Buckland & Sons.

Leyton.—1, Vicarage-rd., f., r. 32*l.* 480
Highbury.—19, Highbury-ter., f., r. 80*l.* 1,080
Brentford, Middx.—The Brent Wharf, f., r. 80*l.* .. 2,200
142 to 145, High-st., 1 and 4 to 8, Church-alley, f., r. 180*l.* 14*s.* (one-fifth share) 210
Peckham.—Asylum-rd., i.g.r. 30*l.*, u.t. 49 yrs., g.r. nil 555
Bethnal Green.—Green-st., f.g.r. 5*l.* 10*s.*, reversion in 27 yrs. 175
Poplar.—East India Dock-rd., f.g.r. 4*l.* 10*s.*, reversion in 35 yrs. 240
Brighton.—53, Marine-parade, f., e.r. 200*l.* 3,050
Chapel-ter., Malden House, f., r. 65*l.* 870

By Weatherall & Green.

Shepherd's Bush.—Shepherd's Bush-rd., i.g.r. 12*l.*, u.t. 81 yrs., g.r. 2*l.* £220
Bayswater.—13, 14, 14A, 15, and 16, Pembridge-mews, f., r. 195*l.* 2,510
5 and 6, Portobello-mews, f., r. 55*l.* 600
Shepherd's Bush.—17, 23, 25, 27, 37, and 39, Melrose gardens, u.t. 78 yrs., g.r. 30*l.*, r. 244*l.* .. 2,570
31, Westwick-gardens, u.t. 80 yrs., g.r. 8*l.* 15*s.*, e.r. 42*l.* 360
Hammersmith.—2, 7, 10, 12, 13, and 24, Dewhurst-rd., u.t. 83 yrs., g.r. 48*l.*, r. 276*l.* 2,530

By Rogers, Chapman & Thomas.

Kentish Town.—68 to 78, 82 to 90 (even), Bartholomew-rd., u.t. 63 yrs., g.r. 67*l.* 1*s.*, r. 458 4,320
Regent's Pk.—53 and 55, Princess-rd., u.t. 54 yrs., g.r. 16*l.*, r. 80*l.* 750
Brompton.—8, St. Oswald's-rd., u.t. 73 yrs., g.r. 10*l.*, r. 40*l.* 315
Pimlico.—160, Ebury-st., u.t. 23 yrs., g.r. 7*l.*, r. 100*l.* 1,060
191, Ebury-st., 8A, Little Ebury-st., with stables, u.t. 21 yrs., g.r. 84*l.*, r. 178*l.* 730
Wandsworth.—14 and 16, St. John's Hill Grove, u.t. 53 yrs., g.r. 8*l.* 8*s.*, r. 55*l.* 505
18, 22, and 24, St. John's Hill Grove, f., r. 83*l.* .. 1,230
Louvaine-rd., f.g.r. 44*l.* 2*s.*, reversion in 61½ yrs. 1,155
St. John's Hill Grove, f.g.r. 12*l.* 12*s.*, reversion in 53 yrs. 360
Selhurst.—27 to 33 (odd), Princess-rd., f., r. 121*l.* 1,420

By Alfred Richards.

Tottenham.—30 to 44 (even), Somerset-rd., f., r. 200*l.* 2,600
Islington.—217, Liverpool-rd., f., r. 50*l.* 605

By Pendered & Son (at Raunds).

Raunds, Northants.—A plot of building land., f. 700
An enclosure of pasture, 6 a. 3 r. 4 p., c. 250

By Castiglione & Gibbings (at Carlisle).

Carlisle, Cumberland.—The Broom Hill Estate 139 a. 3 r. 38 p., f. 5,575
Etterby House," f., r. 70*l.* 1,600

By C. F. Moore (at Cirencester).

Ashton Keynes, Wilts.—Cove House Farm, 86 a. 2 r. 11 p., f. 2,650
The Leigh Farm, 153 a. 1 r. 22 p., f. 3,350
Bows and Wires Close, 5 a. 2 r. 3 p., f. 160
Coln St. Dennis, Glos.—Coln St. Dennis and Calcot Farms, 413 a. 3 r. 1 p., f. 4,490

Foss Bridge, Glos.—Foss Bridge Mill and 5 a. 0 r. 5 p., f. £450
Foss Bridge Cottage, f. 400
Chedworth, Glos.—An enclosure of arable, 6 a. 2 r. 0 p., f. 190

By M. DE ROME & SON (at Windermere).

Windermere, Westmoreland. — The Common Estate, 182 a. 3 r. 10 p., c. 6,150

By W. R. MOUNSEY (at Shap).

Morland, Westmoreland.—Dedra Banks Estate, 76 a. 2 r. 8 p., f. 1,620
Christy's Close, 5 a. 1 r. 35 p., f. 200
Two-thirds of Slack's Fields, 13 a. 0 r. 6 p., f. 280
Thrimby-with-Strickland, Westmoreland.—Sheriff Park Estate, 72 a. 3 r. 31 p., f. 2,800

July 26.—By JOHN BOTT & SONS.

Vauxhall.—24 and 25, Woodgate-st., u.t. 48 yrs, g.r. 8*l.* 225

By CANE & CO.

Dulwich.—15, Crystal Palace-rd., f., r. 34*l.* 535
Peckham.—87, Barry-rd., u.t. 78 yrs., g.r. 12*l.* 10s., e.r. 50*l.* 445

By C. W. DAVIES.

King's Cross.—4, 5, and 6, Providence-row, f. 450
Islington.—New North-rd, i.g.r. 30*l.* 5s., u.t. 12 yrs., g.r. 5*l.* 170
36, Packington-st., u.t. 38 yrs., g.r. 7*l.*, r. 50*l.* 465
Brockley.—1, Hazledon-rd., u.t. 79 yrs., g.r. 6*l.* 6s., r. 28*l.* 250

By Messrs. EILOART.

Soho.—21 and 22, Gerrard-st., area 2,137 ft., f., r. 190*l.* 4,200

By HAWES & CO.

Wimbledon.—82, Alexandra-rd., u t. 91 yrs., g.r. 6*l.* 10s., e.r. 36*l.* 310

By VENTOM, BULL, & COOPER.

Aldersgate-st.—8, Westmoreland-bldngs., f., r. 120*l.* 2,360

By C. P. WHITELEY.

Catford.—Glenwood-rd., f.g.r. 153*l.* 15s., reversion in 98 yrs. 4,340
Old Ford.—Roman-rd., f.g.r. 16*l.*, reversion in 54 yrs. 525

By G. F. HARRINGTON.

Bognor, Sussex.—3 and 4, Lansdowne-pl., f., r. 135*l.* 1,960
Catford.—Malham-rd., f.g.r. 30*l.*, reversion in 66 yrs. 840

By HAYMAN & CO.

Maida Vale.—115, Portsdown-rd., u.t. 73 yrs., g.r. 1*l.* 12s. 1,000
Plaistow.—Khartoum-rd., Macaulay Villa, f. 390

By G. B. SMALLPEICE.

Egham, Surrey.—Shrub's Hill, a freehold building estate, 9 a. 2 r. 31 p. 3,400

By WALTON & LEE.

Bloomsbury.—36, 37, and 38, Great Russell-st., u.t. 48 yrs., g.r. 90*l.*, r. 435*l.* 5,770
Edenbridge, Kent.—The Greybury Estate, about 430 a., f. 13,000
Hartfield, Sussex.—Gurr's Cottage and 1 a. 1 r. 8 p., f., r. 10*l.* 330

By OSBORN & MERCER.

St. John's Wood.—22, Hamilton-ter., u.t. 36 yrs., g.r. 1,310*l.* 2,510
Bredenbury, &c., Hereford.—The Bredenbury Court Estate, 530 a. 3 r. 7 p., f. 30,000

By DEBENHAM, TEWSON, & CO.

Leigh, &c., Worcester.—Half Key Farm, 286 a. 3 r. 9 p., f. 4,000
Castle Green and Lower House Farms, 245 a. 1 r. 2 p., f. 6,000
Chalkenhill Farm, 171 a. 0 r. 21 p., f. 4,600
Great House and Bull Ring Farms, 351 a. 2 r. 32 p., f. 9,400
Pigeon House Farm, 135 a. 3 r. 30 p., f. 3,500
Little Brockamin Farm, 163 a. 0 r. 7 p., f. 3,650

By SLEE, SON, & CARDEN (at Masons' Hall Tavern).

Stockwell.—Sidney-rd., "The Grosvenor Arms" p.-h., u.t. 39 yrs., r. 84*l.*, with goodwill 13,500

By FLEURET, SONS, & ADAMS (at Masons' Hall Tavern).

South Kensington.—Barkston Gardens, The Barkston Gardens Hotel, u.t. 40 yrs., r. 600*l.*, with goodwill 1,150

By J. M. WELCH (at Dunmow).

Dunmow, Essex.—Truton's Farm, 116 a. 1 r. 5 p., f. 1,975
Half-Way House and New House Farms, 104 a. 3 r. 34 p., f. 1,450
Five freehold cottages 295
River Mead enclosure, 9 a. 1 r. 13 p., f. 400
Stebbing, Essex.—Lucas Farm, 19 a. 2r. 17 p., f. 675
Various enclosures, 27 a. 0 r. 27 p., f. 595
Collops Farm, 86 a. 2 r. 13 p., f. and c. 1,000
A copyhold cottage 115
Great Waltham, Essex.—A farm homestead and 12 a. 3 r. 25 p., f. and c. 500

By NEWLAND, DAVIS, & HUNT (at Chepstow).

Tidenham, Glos.—Yew Tree Cottage and cottage adjoining, with 1 a. 0r. 21 p., f. 405
A building plot, 0 a. 3 r. 30 p., f. 140
Shirenewton, Mon.—Enclosures of land, 37 a. 2 r. 4 p., f. 805
The Tan House b.-h. and 0 a. 1 r. 31 p., f. 800

By WILLIAM MANTON (at Ledbury).

Stretton, Grandison, Hereford.—The Townsend Estate, 166 a. 3 r. 19 p., f. 8,000

By GARROD, TURNER, & SON (at Ipswich).

Tannington, Suffolk.—A freehold farm, 112 a. 2 r. 21 p. 1,700

By CHESSHIRE, GIBSON, & FOWLER (at Birmingham).

Yardley Wood, Worcs.—A freehold farm, area 7 a. 3 r. 4 p. 810

By THURGOOD & SON (at Saffron Walden).

Arkesden, Essex.—Foster's Farm, 89 a. 2 r. 8 p., f. 900
Clavering, Essex.—The Grange and 89 a. 0 r. 26 p., f. 2,000
Deers Farm, 158 a. 3 r. 32 p., f. 2,000
Chamberlaynes Farm, 62 a. 1 r. 15 p., f. 500
Debden, Essex.—Dick's Farm, 13 a. 3 r. 35 p., f. 185
Henham, Essex.—A freehold post mill, house, &c., and 4 a. 0 r. 22 p. 266
Wimbish, Essex.—Little Stonard's Farm, 46 a. 1 r. 35 p., f. 600
High Garrett Farm, 40 a. 2 r. 29 p., f. 650
Rayment's Farm, 32 a. 2 r. 16 p., f. 500

By J. T. PEAT (at Redhill).

Nutfield, Surrey.—Delves Farm, 42 a. 1 r. 18 p., f. 1,305
Reigate, Surrey.—Freehold building land, 17 a. 0 r. 25 p. £4,550
Whitehall Farm, 19 a. 2 r. 33 p., f. 3,010
A freehold residence and 11 a. 1 r. 0 p., r. 30*l.* 1,400
Beaufort-rd., a building plot, f. 185

By Messrs. COBB (at Ashford).

Stanford, Kent.—Kennetts Holding, 60 a. 1 r. 19 p., f. 1,685
Newchurch, Kent.—Three enclosures of marsh, 41 a. 2 r. 10 p., f. 930
Vincent Land, 28 a. 0 r. 7 p., f. 710
Burmarsh, Kent.—Enclosure of land, 11 a. 2 r. 25 p., f. 120

July 27.—By ALDRIDGES.

Croydon.—32 to 46 (even), Park-lane, u.t. 52 yrs., g.r. 126*l.*, r. 347*l.* 3,000
Thornton Heath.—16, Woodville-rd., f. 540

By BAXTER, PAYNE, & LEPPER.

Farnborough, Kent.—Wellbrook-rd., Ebury Villa, f. 680

By J. H. BULMER.

Rotherhithe.—49 and 51, Bush-rd., u.t. 9½ yrs., g.r. 2*l.* 120
Deptford.—8, 10, and 12, Croft-st., u t. 39 yrs., g.r. 9*l.* 575

By COOPER & GOULDING.

Hampton, Middlesex.—Avenue-road, Park Lodge, f., e.r. 55*l.* 650
Chiswick.—1 to 9 (odd) and 36 to 42 (even), Reckitt's-rd., u.t. 70 yrs., g.r. 40*l.* 10s. 1,675
34 and 36, Dale-st., u.t. 70 yrs., g.r. 7*l.* 430
13 to 27 (odd), Quick-rd., u.t. 70 yrs., g.r. 36*l.* 1,410
93 to 121 (odd), Duke's-rd., u.t. 70 yrs., g.r. 62*l.* 5s. 2,780

By HAROLD GRIFFIN.

Battersea.—1, Plough-rd., u.t. 50 yrs., g.r. 7*l.*, r. 30*l.* 245

By HOBSON, RICHARDS, & CO.

Dulwich.—291 to 315 (odd), Underhill-rd., f., r. 43*l.* 5,070
Ponder's End.—High-st., Pelling's Supply Stores, with full off-licence and goodwill, f. 2,475

By J. S. RICHARDSON.

Holloway.—5, Tollington Pk., area 16,000 ft., f. 1,650

By ROBINS & HINE.

Dulwich.—13, Dalmore-rd., u.t. 84 yrs., g.r. 8*l.* 10s. 505

By R. TIDEY & SON.

Islington.—34 and 34A, Islington-green, f. 920
Finsbury Pk.—33, Palmerston-rd., u.t. 67 yrs., g.r. 6*l.* 225
De Beauvoir Town.—48, De Beauvoir-rd., u.t. 19 yrs., g.r. 1*l.* 1s. 6d., r. 75*l.* 670
Downham-rd., i.g.r. 18*l.* 12s., u.t. 21 yrs., g.r. 2*l.* 14s. 130
Kentish Town.—13 and 14, Preston-st., u.t. 50 yrs., g.r. 11*l.* 350
Willesden.—Northcote-rd., f.g.r. 30*l.*, reversion in 96 yrs. 750

By WEATHERALL & GREEN.

Soho.—5, Denmark-st., f., r. 120*l.* 2,250
26, Denmark-st., area 1,080 ft., f. 1,850
Stockwell.—6, Gateley-rd., u.t. 73 yrs., g.r. 9*l.* 5s., e.r. 48*l.* 425

By T. G. WHARTON.

Hackney.—159 and 161, Hackney-rd., u.t. 30 yrs., g.r. 70*l.* 490

By WHITE, DRUCE, & BROWN.

Regent's Park.—35, Chester-ter., u.t. 17 yrs., g.r. 52*l.* 10s., r. 200*l.* 1,395
19, Park-square East, u.t. 24 yrs., g.r. 27*l.* 10s., r. 100*l.* 910
Strand.—61, 62, and 63, Wych-st., u.t. 23 yrs., g.r. 60*l.*, r. 145*l.* 1,030

Contractions used in these lists.—F.g.r. for freehold ground-rent; l.g.r. for leasehold ground-rent; i.g.r. for improved ground-rent; g.r. for ground-rent; r. for rent; f. for freehold; c. for copyhold; l. for leasehold; e.r. for estimated rental; u.t. for unexpired term; p.a. for per annum; yrs. for years; st. for street; rd. for road; sq. for square; pl. for place; ter. for terrace; cres. for crescent; yd. for yard, &c.

PRICES CURRENT OF MATERIALS.

TIMBER.		
Greenheart, B.G. ton	8/0/0	0/0/0
Teak, E.I....load	9/5/0	14/5/0
Sequoia, U.S.ft.cu.	1/9/0	2/0/0
Ash, Canada, load	3/18/0	5/3/0
Birch, do.	3/7/6	5/0/0
Elm, do.	4/13/0	5/13/0
Fir, Dantsic, &c..	3/9/0	4/9/0
Oak, do.	1/18/0	2/18/0
Canada	3/13/0	4/18/0
Pine, Canada red	c/0/0	0/0/0
Do. yellow	4/3/0	6/3/0
Lath, Dantsic,fath	4/10/0	5/10/0
St. Petersburg..	5/0/0	6/10/0
Wainscot, Riga, &c., log	4/10/0	6/0/0
Odessa, crown	4/10/0	6/0/0
Deals, Finland 2nd & 1st std 100	9/0/0	9/10/0
Do. 4th & 3rd ..	9/0/0	9/10/0
Do. Riga	7/10/0	8/10/0
St. Petersburg, 1st yellow	11/0/0	13/10/0
Do. 2nd yellow.	10/0/0	11/10/0
Do. white	9/0/0	11/0/0
Swedish	9/10/0	16/-/0
White Sea	10/10/0	17/0/0
Canada, Pine 1st	18/0/0	24/10/0
Do. do. 2nd	13/0/0	15/15/0
Do. do. 3rd, &c.	6/0/0	9/10/0
Do. Spruce, 1st	8/10/0	10/10/0
Do. do. 3rd and 2nd	7/10/0	8/10/0
New Brunswick	7/0/0	8/0/0
Battens all kinds	5/0/0	16/0/0
Flooring boards, sq. 1 in. prep. 1st	9/6	16/0
Do. 2nd	8/0	13/0
Other qualities—	6/3	7/2
Cedar, Cuba, ft.	/4	/4½
Honduras, &c.	/3½	/4½
Mahogany, Cuba	/5½	/7
St. Domingo, cargo av.	/5	0/1/3
Mexican, do. do.	/3½	/4
Tobasco, do. do.	/4	/6½
Honduras, do.	/4	/6
Box, Turkey, ton	4/0/0	15/0/0
Rose, Rio	7/0/0	14/0/0
Bahia	6/0 0	12/0/0
Satin, St. Doming.	0/0/5	0/1/0

TIMBER *(continued)*.		
Satin, Porto Rico	0/0/6	0/1/6
Walnut, Italian ..	0/0/3	0/0/7
METALS.		
Iron—Pig, in Scotland ....ton	2/6/7	0/0/0
Bar, Welsh, in London	5/15/0	5/17/6
Do. do. at works in Wales	5/10/0	5/12/6
Do. Staffordshire, in London	6/5/0	7/10/0
COPPER—British cake and ingot	53/10/0	54 0/0
Best selected ..	54/0/0	54/10/0
Sheets, strong..	58/10/0	59/10/0
Chili bars	50/3/9	0/0/0
YELLOW M.L lb.	5d.	5¼d.
LEAD—Pig		
Spanish ....ton	12/15/0	0/0/0
English com. bands	13/0/0	0/0/0
Sheet, English 6 lbs. per sq. ft. and upwards ..	14/0/0	0/0/0
Pipe	14/10/0	0/0/0
ZINC—English sheet....ton	23/0/0	0/0/0
Vieille Montagne	23/10/0	0/0/0
Spelter	20/0/0	23/2/6
TIN—Straits	71/10/0	0/0/0
Australian	72/0/0	72/10/0
English Ingots..	74/0/0	75/0/0
Banca	c/0/0	0/0/0
Billiton	0/-/0	0/0/0
OILS.		
Linseed ton	16/10 0	16/15/0
Cocoanut, Cochin	27/15/0	c/0/0
Do. Ceylon	22/0/0	0/0/0
Palm, Lagos	21/15/0	0/0/0
Rapeseed, English pale	27/10/0	0/0/0
Do. Brown	26/0/0	c/c/0
Cottonseed ref. ..	14/5/0	15/5/0
Oleine	13/10/0	14/10/0
Lubricating U.S.	0/5/3	0/7/6
Do. Black	0/5/0	0/6/6
TAR—Stockholm barrel	1/5/0	0/0/0
Archangel	0/12/6	0/0/0
Turpentine	21/15/0	0/0/0

TENDERS.

[Communications for insertion under this heading should be addressed to "The Editor," and must reach us *not later than* 10 *a.m. on Thursdays.* N.B.—We cannot publish Tenders unless authenticated by the name and address of the sender; and we cannot publish announcements of Tenders accepted unless the amount of the Tender s given, nor any list in which the lowest Tender is under £100, unless in some exceptional cases and for special reasons.]

ABINGDON.—For the erection of three houses, Albert Park, for the Governors of Christ's Hospital. Mr. J. G. T. West, architect, The Knowl, Abingdon:—

Ward & Son	£1,379 18 9	Grant	£1,159 0 0
Bottrill & Son	1,239 0 0	Ricketts	1,036 0 0
Buckle	1,220 0 0	Randall	850 0 0

ARMLEY (Leeds).—Accepted for erecting two houses for Mrs. Levisohn. Mr. F. W. Rhodes, architect, Upper Wortley:—

Bricklaying and Masonry.—H. Brook, Armley	£306 0
Joinery.—J. Tate, Armley	152 0
Slating.—J. Atkinson & Son, Leeds	26 17
Plastering.—J Walsh, Armley	48 10
Plumbing.—A B. Cromack, Armley	42 0
Painting.—C. F. Brown, Armley	10 10

BARTON STACEY (Hants).—For the erection of three cottages, for Mrs. McCreagh Thornhill. Mr. A. Purkess, architect, Andover:—

F. Beale	£729 0	C. Grace & Sons	£657 0
H. Annett & Son	725 0	S. Bell, Andover*	610 0
C. Simkins	694 11	* Accepted.	

BRIGHTON.—For alterations, &c., to school, Preston-road, for the Brighton and Preston School Board (U.D.). Messrs. T. Simpson & Son, surveyors, 16, Ship-street, Brighton:—

James Barnes	£744	W. Brown & Son	£679
G. R. Lockyer	710	Sattin & Evershed	647

BUCKLOW.—For the construction of main sewers and outfall works, Hale, for the Rural District Council. Mr. J. M'D. M'Kenzie, surveyor, 7, Market-street, Altrincham. Quantities by surveyor:—

James Hamilton & Sons, Altrincham £1,565
Eight firms tendered. Lowest accepted.

CHARTHAM.—For painting Kent County Lunatic Asylum externally. Section No. 2. Mr. W. J. Jennings, architect, Canterbury. Quantities supplied:—

W. F. Hadlow	£1,080	Arthur H. Iuns, Watford*	£995
Emery Bros.	1,025	* Accepted.	

CHELMSFORD.—For erecting a small house on the Baddon-road. Mr. Rd. Mawhood, architect, 2, Market-road, Chelmsford:—

F. Johnson	£519	W. Fincham	£447
J. Gowers	475	W. Samms (accepted)	435

[All of Chelmsford.]

CRUMLIN (Mon.).—For additions to Board schools, for the Mynyddislwyn School Board. Messrs. Rosser & Roberts, architects, Abercarn. Quantities by architect:—

Rowland & Lloyd	£421	Lawson & Co.	£340
D. Lewis	380	C. F. Morgan, Newbridge, Mon. (accepted)	314
E. Williams	343		

DORCHESTER.—For the erection of almshouses for four married couples, for the Trustees of Chubb's and Whetstone's charities. Mr. A. L. T. Tilley, architect, Dorchester:—

E. Smith	£1,185 0	C. E Slade	£1,150 0
W. Fry	1,160 15	A. Harvey, Charminster*	1,141 0
		* Accepted.	

DUNMOW (Essex).—For additions to schools at the Congregational Church. Mr. C. Pertwee, architect, Bank-chambers, Chelmsford:—

Ernest West	£379 0	J. Pepper, Dunmow, Essex*	£222 0
F. Harman	305 10	* Accepted.	
A. M. Warren	250 0		

EXETER.—Accepted for the erection of shop and house for Mr. Plucknett. Mr. J. A. Lucas, architect, Guildhall-chambers, Exeter:—

General Builders, Ltd., Progress Works, Notting Hill.. £517

EXETER.—Accepted for alterations and additions to Church schools, Heavitree. Mr. E. H. Harbottle, architect, County-chambers, Exeter:—

General Builders, Ltd., Progress Works, Notting Hill.. £265

GNOSALL (Staffs.).—For the supply of granite and slag, for the Rural District Council. Mr. W. A. Peake, surveyor, Gnosall, near Stafford:—

J. B. Snape, Pelsall, near Walsall, accepted for slag, delivered at Gnosall at 5s. 5d. per ton.

LEIGH (Lancs.).—For the erection of banking premises, Bridge-street. Mr. J. H. Stephen (Banks, Fairclough & Stephen) architect, Leigh, Lancs. Quantities by architect:—

J. W. Cowburn	£2,886	J. H. Wright, Leigh, Lancashire (accepted)	£2,593

Architect's estimate, £2,688.

LONDON.—For the erection of new head office buildings Metropolitan Asylums Board. Mr. E T. Hall, architect:—

B. E. Nightingale	£54,827	John Shillitoe & Son, Bury St Edmunds*	£47,532
E. Lawrance & Sons	54,127	Henry Lovatt, Wolverhampton	Not priced
Leslie & Co., Ltd.	54,043	* Accepted.	
W. Pattinson & Sons	51,243		
Foster & Dickson	48,980		

[Architect's revised estimate, £46,328.]

LONDON.—For making-up the main road, and repairing paths at the North-Western Hospital, for the Metropolitan Asylums Board. Messrs. Pennington & Son, architects:—

B. Nowell & Co.	£1,286	Thomas Adams	£1,195
A. J. Cole	1,215	C. W. Killingback & Co.	997
Robert Jackson	1,187	Ephraim Hollingsworth	996
George Bell	1,079	Ballard, Ltd, Child's Hill, N (accepted)	643
William Griffiths	1,040		

Architects' estimate £1,080

LONDON.—For the supply of boilers in connexion with electric light installation, at the Northern Hospital, for the Metropolitan Asylums Board:—

Hawksley, Wild, & Co.	£970	Davey, Paxman, & Co., Ltd	£781
J. Thompson	870	E. Danks & Co., Ltd.	725
Fraser & Fraser, Ltd.	827	R. Taylor & Sons	725
Tinkers, Ltd.	800		

LONDON.—For alterations to saloon bar, &c., "Albany Arms," Albany-road, S.E., for Mr. C. Cook :—

Nash	£460 0	Simpson & Cove*	£359 0
W. E. Hill	371 10	* Accepted.	

LONDON.—For building villa, Catford Bridge, for Mr. H Burrows. Mr. W. Woodward, architect, Bedford-row, W. :—

Balaam Bros.	£1,400	Layard	£898
Simpson & Cove	999	W. Dean	780

LONDON.—For the supply of dynamos and engines at the Northern Hospital, for the Metropolitan Asylums Board :—

	Alternative figures for different machines. Dynamos and Engines.	Spare Armature.
Ernest Scott & Mountain, Ltd.	£1,995	£110
Clarke, Chapman & Co., Ltd.	1,798	110
Thomas Parker, Ltd.	1,891	96
	1,651	72
Easton, Anderson, & Goolden	1,802	96
P. R. Jackson & Co, Ltd.	1,816	123
	2,145	135
	1,955	135
India-rubber, Gutter-Percha, and Telegraph Works Co., Ltd. Silvertown, E.	*1,705	71
	1,6 5	60
	1,890	71
Crompton & Co., Ltd.	1,742	81
	1,877	90
Mather & Platt, Ltd.	1,743	87
	1,748	87
Siemens Bros. & Co., Ltd.	1,680	82
	1,780	87
	2,100	82
Johnson & Phillips	1,560	69
	1,640	69
	1,750	79
Electric Construction Co. Ltd.	1,913	95
	1,804	90
	2,307	95
	2,090	95
J. H. Holmes & Co., Newcastle-on-Tyne	1,890	116
	1,740	100
	2,075	116
	2,230	112

* Accepted.

Consulting Engineer's revised estimate, £1,900.

LONDON.—For building new projections, to contain additional lavatory and water-closet accommodation at the Strand Workhouse, Edmonton, for the Guardians of the Strand Union. Messrs. W. S. Cross & Kekwick, architects, 18, Outer Temple, Strand. Quantities by Mr. W. T. Farthing :—

Allan & Stanley	£5,925	Merredew & Wort	£5,409
W. Lawrance	5,730	T. G. Sharpington	5,368

LONDON.—For additions, &c., to Chapel, St. John's-square, Clerkenwell, for the Rev. J. E. Wakerley and others. Mr. A. Wakerley, architect, 14, Market-place, Leicester. Quantities by Messrs. Corderoy, Selby, & Corderoy, Westminster :—

Stapleton & Sons	£10,289	E. Houghton & Son	£8,751
Barrett & Power	9,734	Harris, Ward, & Co.	8,337
Geo. Munday & Sons	9,480	General Builders', Ltd.	8,000
B. E. Nightingale	9,407	Merredew & Wort	7,900
J. Cheeseman & Sons	9,320	W. Reason	7,859
Holloway Bros.	9,235		

LONDON.—For internal painting, &c., at the Infirmary, Wandsworth, for the Clapham Union Guardians :—

G. W. Street	£1,482	W. Johnson & Co.	£805
H. Roffey	1 070	H. Heather*	768
Arthur H. Inns	975	F. W. Harris	765
C. Gurling	946	D. McNeil	690

* Accepted.

PORT TALBOT (Wales).—For the erection of caretaker's house, at the intermediate school. Mr. Frank B. Smith, architect, Port Talbot :—

Evan Thomas	£563 0 0	Matthews & Co.	£435 0 0
S. Rees	535 0 0	Morgan Coe	420 0 0
Leverton Bros.	494 9 0	John Davies, Aberavon (accepted)	420 0 0
Stephens & Co.	459 15 6		

SALTASH (Cornwall).—Accepted for the erection of a Wesleyan schoolroom, and renovation of chapel, at Forder, for the trustees. Mr. Edgar M. Leest, architect, Devonport and Saltash :—

R. J. Taylor & Co., Mutten £312

STOCKTON-ON-TEES.—For additions to schools, Bailey-street, and Bowesfield-lane, for the School Board. Mr. Arthur Harrison, architect, 99, High-street, Stockton. Quantities by architect :—

Bailey-street School Additions.

J. Davison	£1,620 10 11	Craggs & Benson, Stockton*	£1,822 0 0
A. Atkinson & Co.	1,831 15 8		
A. J. Cooke	1,847 13 0		

* Accepted subject to Educational Department's approval (now obtained).

Bowesfield-lane School Addition.

J. Davison	£651 8 11	A. J. Cooke, Stockton*	£618 3 0
Craggs & Benson	632 10 0	A. Atkinson & Co.	609 14 10

* Accepted.

WEMBLEY (London).—For the erection of new south aisle, organ chamber and porch, and alterations to St. John's Church. Mr. Hayward Brakspear, architect :—

F. G. Minter	£3,965	John Bentley	£3,339
Dove Bros.	3 753	Belham & Co.	3,191
H. Haynes	3,540		

WHITBY.—For the erection of villa residence, Goathland. Mr. E. H. Smales, architect, 5, Flowergate, Whitby :—

John Brough	£1,105 17 6	Robinson Harland, Whitby (accepted)	£1,066 0 0
A. Palframan	1,082 15 0		
John Hutchinson	1,078 0 0	C. Winterburn	960 0 0

WHITEHAVEN.—For additions, &c., to Board schools, Arlecdon. Mr. J. S. Moffat, architect, 53, Church-street, Whitehaven :—

Chapple & Son	£608 10 0	Joseph Green, Pardshaw (accepted)	606 18 0

EIGHT HOUSES, OAK GROVE, CRICKLEWOOD—In our issue for June 11, page 577, we stated that the architect for these houses was Mr. Ernest Owers. We are now informed that Mr. Owers is the freeholder of the land, and that he has arranged the advances under ordinary building agreement to the extent of £2,080.

TO CORRESPONDENTS.

J. P. C. (Amount should have been stated).

NOTE.—The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.

We cannot undertake to return rejected communications.

Letters or communications (beyond mere news items) which have been duplicated for other journals are NOT DESIRED.

We are compelled to decline pointing out books and giving addresses.

Any commission to a contributor to write an article is given subject to the approval of the article, when written, by the Editor, who retains the right to reject it if unsatisfactory. The receipt by the author of a proof of an article in type does not necessarily imply its acceptance.

All communications regarding literary and artistic matters should be addressed to THE EDITOR; those relating to advertisements and other exclusively business matters should be addressed to THE PUBLISHER, and *not* to the Editor.

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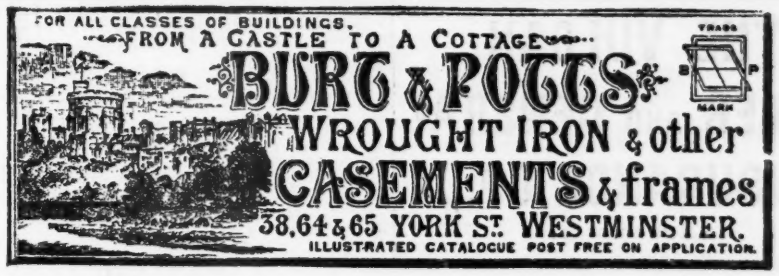
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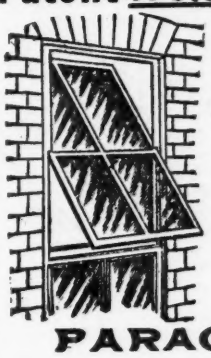

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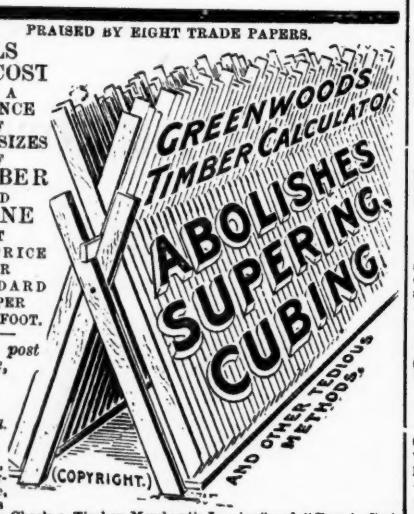

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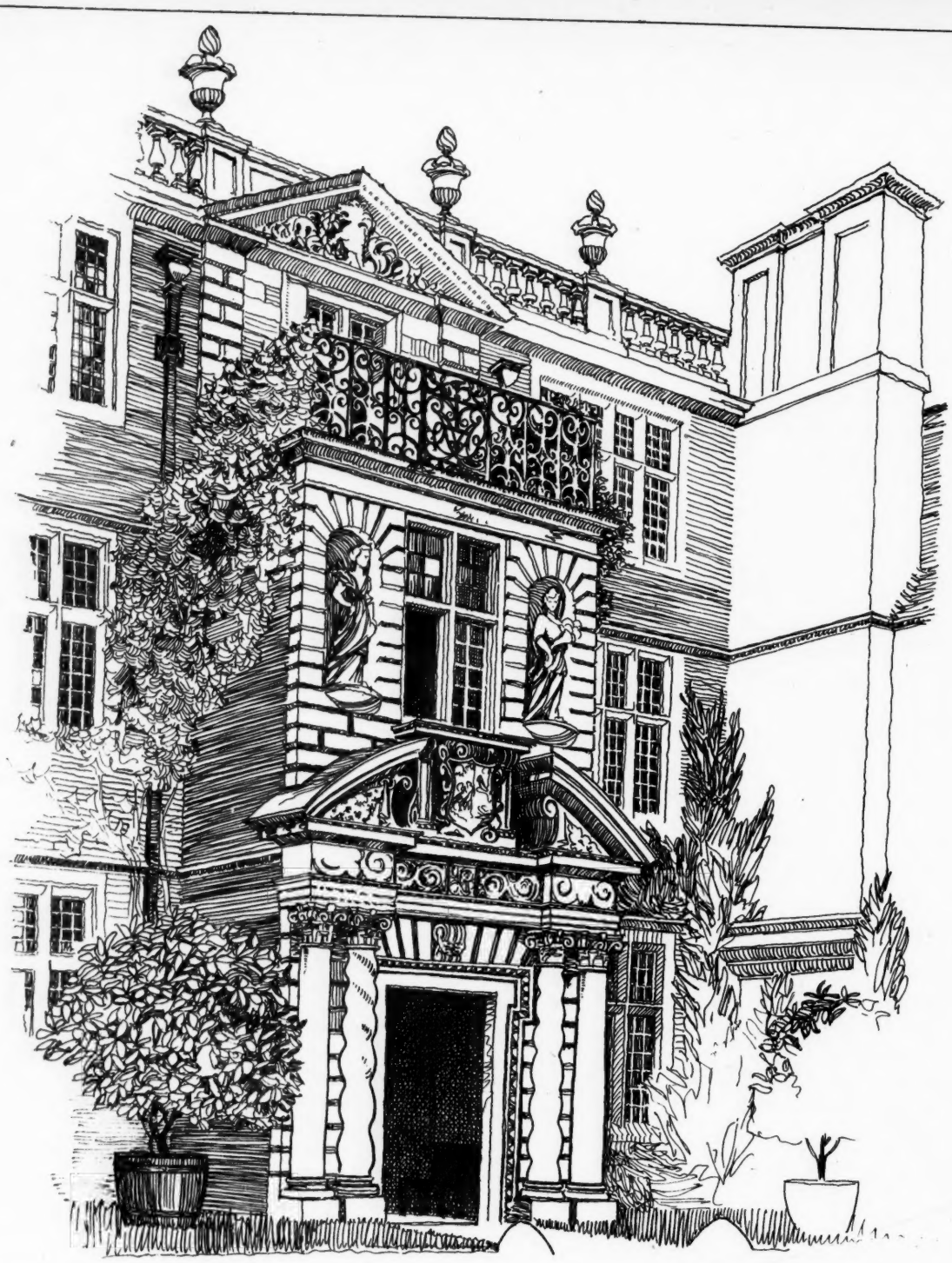

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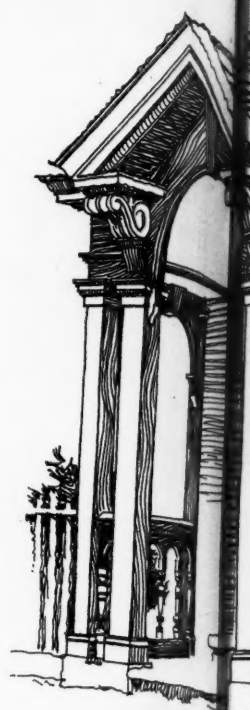

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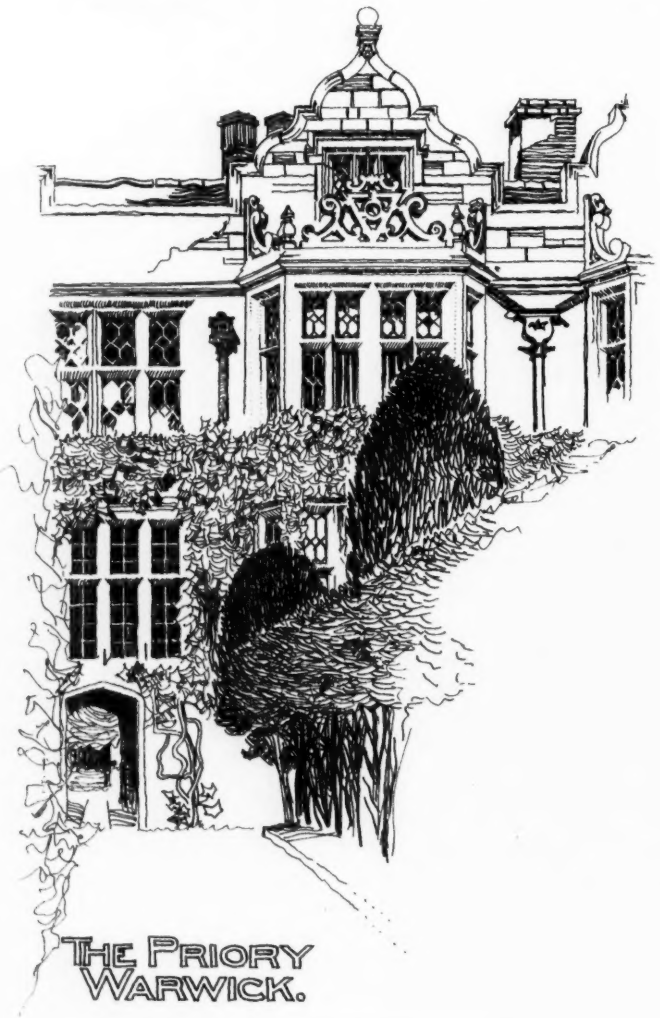

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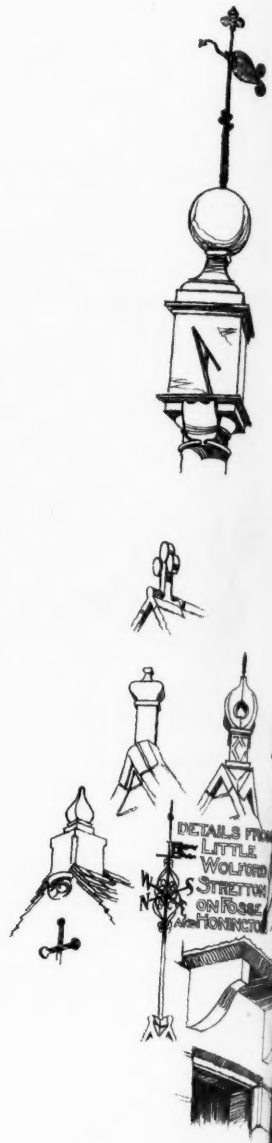

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